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Volume XLVI

APRIL, 1924

Number Four

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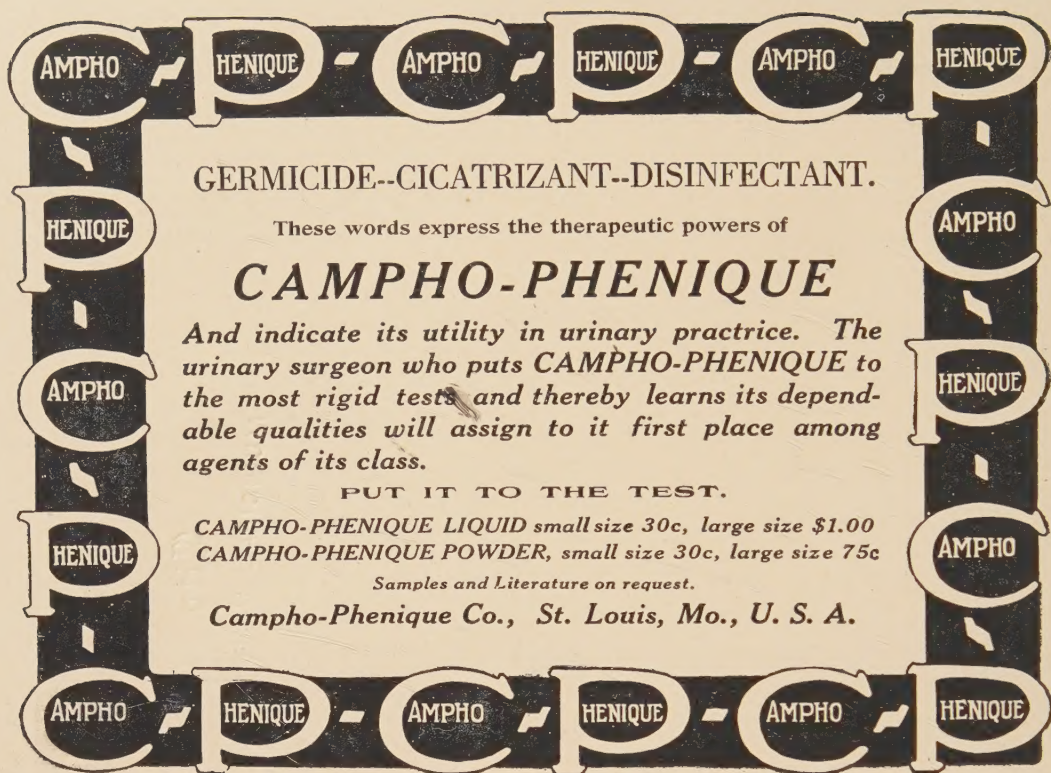
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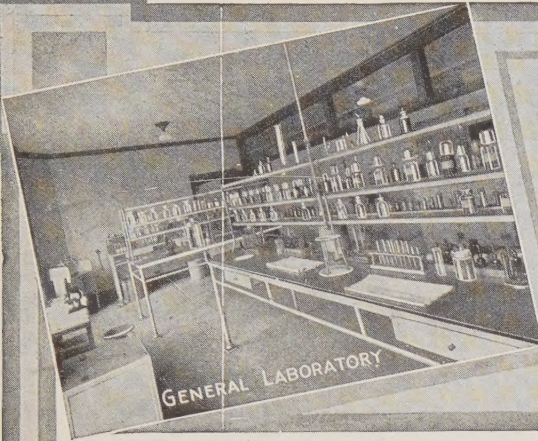
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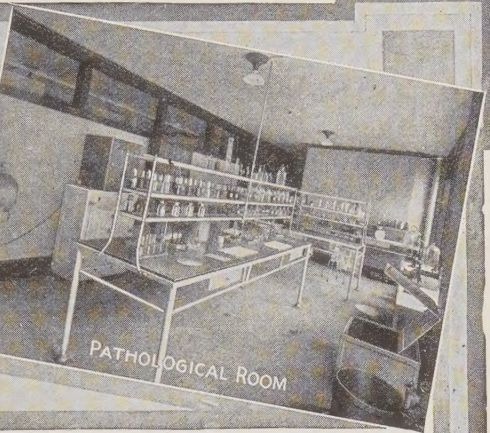
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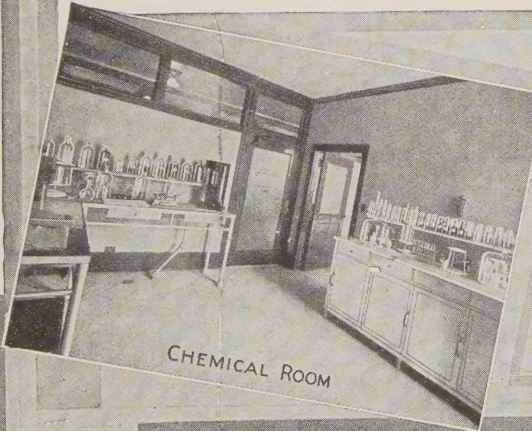
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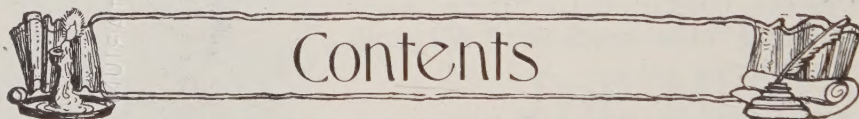


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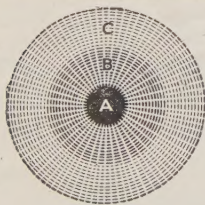
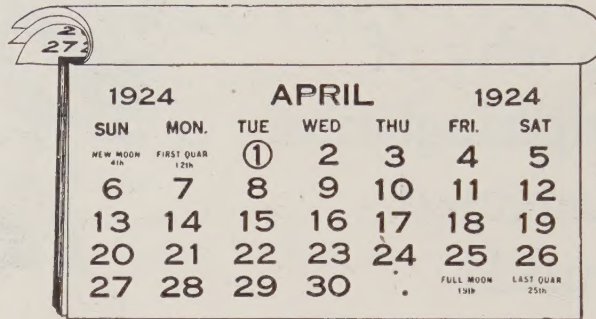


Diagram represents inflamed area. In zone "C" blood is flowing freely through underlying vessels. This forms a current away from the Antiphlogistine, whose liquid contents, therefore, follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone "A" there is stasis, no current tending to overcome Antiphlogistine's hygroscopic property. The line of least resistance for the liquid exudate is therefore, in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for.



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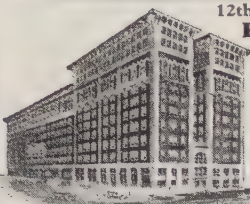
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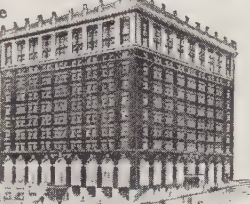
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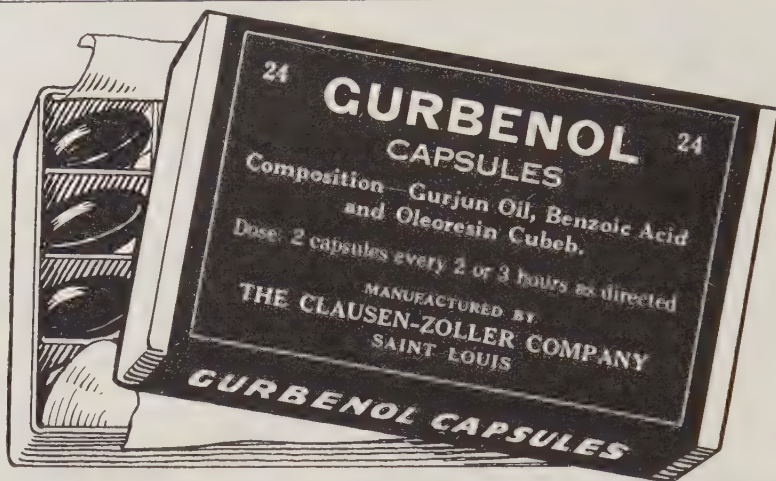
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Vol. XLVI

APRIL, 1924

No. 4

Original Articles

SIMULTANEOUS DISLOCATION OF BOTH SHOULDER JOINTS *

(An Analytical Study.)

By AIME' PAUL HEINECK, M.D.

CHICAGO, ILLINOIS

Simultaneous traumatic dislocations of both humeri form the subject matter of this paper, based exclusively upon the analytical study of all cases (fifty-eight in number) reported in the English, French and German literature from 1836 to 1923, supplemented by the clinical observation of one personal case. All the cases were (a) in location, bilateral, (b) in occurrence, simultaneous or immediately successive, and always caused by the same accident, (c) in nature, complete, (d) in causation, unquestionably traumatic. With one exception (32), the condition had never previously occurred in the same individual. In another case (28), both shoulders had been dislocated, the left six years, the right fourteen years previously. We have not attempted to discuss completely bilateral shoulder dislocations; only clinical facts and anatomical lesions reported in the original articles have been analyzed and summarized.

These dislocations differ in type, in etiology, in clinical manifestations and present various associated injuries of the articular and peri-articular tissues (osseous, nervous, vascular, etc.). Early and complete reduction, correction (operative or non-operative) of the co-existing complications, and institution of judicious after-treatment (massage, mechano-therapy, electricity, etc.) minimize, in fact almost always completely overcome, the anatomical deformity and the functional disability incident to shoulder dislocations.

We discarded cases like the following: "Bilateral Dislocation of Shoulder with Marked Muscular Wasting" (60). The patient, a seventeen-

*The numbers in the article refer to illustrative cases, for which see the bibliography.

year-old girl, an epileptic since birth, gave no history whatever of previous shoulder injury. Examination revealed an incomplete forward dislocation of both humeri with marked limitation of joint movements and evident wasting of the right deltoid and spinati. Skiagrams of both shoulders did not show any abnormality in the bone tissue. This case was eliminated because (a) it was an incomplete dislocation; (b) it was not traumatic in origin.

Habitual or recurrent dislocation is a condition of joint instability characterized by repeated, frequent and complete abnormal separation of contiguous joint-surfaces (65). It occurs upon slight provocation and is often consecutive to a traumatic dislocation. It may be associated with, or determined by (a) abnormal laxity or bagginess of the articular capsule, the resultant of a previous injury; (b) paralysis of one, of several, or of all the periarticular muscles. The tonicity of the periarticular muscles maintains in normal contact the glenoid cavity and the articular head of the humerus, (c) non-union or a faulty union of fractures of the glenoid cavity, of the articular head of the humerus, etc.; (d) non-union or vicious union of a fracture of one or of both humeral tuberosities; (e) traumatic detachment from their insertion of one or more of the rotators of the humeral head. When the external rotators are detached, with or without a lamella of bone, the action of the subscapularis predominates and a forward displacement of the head of the bone is easily effected. When the subscapularis is detached, with or without its osseous insertion, the action of the external rotators is no longer counterbalanced and backward dislocation of the humeral head may result; (f) traumatic separation of one or more of the upper epiphyses of the humerus; (g) anatomical defects of the glenoid cavity.

Allen (6) reports a case of "Simultaneous Dislocation of Both Shoulders." His patient, in the previous four years, had had four dislocations of the right shoulder and three of the left. This case and similar cases (62, etc.) were rejected because (a) in their causation, trauma is not the determining etiological factor; (b) their frequent recurrence labels them habitual or recurrent dislocations (66); (c) they do not present the essential desideratum, that of being simultaneously bilateral; (d) they were associated with or consecutive to one or more of the lesions or conditions known to predispose to habitual dislocations.

Incomplete (60), congenital (64, 65, 67), pathological (63), or spontaneous dislocations and those that were not simultaneously bilateral, are outside of the scope of this paper.

The fifty-nine cases herein considered present the following features: (a) All were traumatic in causation and complete in nature. (b) All were bilateral in location, though not always symmetrical. (c) All were simultaneous in incidence; both shoulders being dislocated within a few minutes' interval. Though not always due to the same immediate exciting factor, they were all caused by the same accident. A passenger fell with

others from the top of an omnibus as the vehicle overturned. It was his belief that, in falling, he had dislocated one shoulder, and that his other shoulder had been dislocated by a friend falling on it (26). (d) All the joints affected were, previous to the dislocations, free from structural abnormalities, as far as can be determined by the text.

Bilateral shoulder dislocations occur in both sexes and at all periods of life. Our series of collected cases show that they are more frequent in males than in females; forty-seven males and eleven females. My patient was a housewife fifty-six years old.

The external violence which dislocates the humerus in adults, in children commonly gives rise to elbow dislocations, to fractures of the clavicle, to humeral epiphyseal separations. Bilateral shoulder dislocations are very rare before the twentieth year. The youngest patients in our series were a male nineteen years old (31), and a female twenty-one years old (24). In advanced life, shoulder dislocations are equally rare, the oldest patient being a female eighty-six years old (20). In eighteen cases the age incidence is not stated; in the other cases it was as follows:

19 years.....	1 case
21 to 30 years.....	6 cases
30 to 40 years.....	5 cases
41 to 50 years.....	11 cases
51 to 60 years.....	10 cases
61 to 70 years.....	5 cases
71 to 80 years.....	1 case
86 years.....	1 case

Bilateral simultaneous shoulder dislocations are either caused by external violence, direct or indirect, or by muscular action, acting singly (25) or co-jointly (18). Violent shocks or wrenches acting simultaneously on the two arms can produce simultaneous bilateral shoulder dislocations (45).

The mechanism of displacement can only be surmised (twenty-five cases) (a) in cases not reported with adequate data. Case 37 gave no history of previous dislocations and though both shoulders were considerably bruised and swollen, it remains a question of conjecture whether one or both dislocations were caused by the fit or the fall; (b) in cases in which the mechanism of displacement is either not stated (dissecting- (41) or postmortem-room subjects (3, 45), or not described in detail. In case 43, a woman fell three and one-half feet from the stepladder, with both arms extended over her head; in case 54, a woman fell forward head-first from the platform of a moving street car; in case 19, a chain springing upward caught the patient under the arm, threw him aloft and he fell to the ground on the other arm; (c) in cases in which the productive violence is complex in nature. In case 39, a workman working in a pit suddenly tapped water; the latter came with such force that he was washed down

the dip a distance of sixty feet. In case 40, a man (age not stated), oiling the fly-wheel of an engine in motion, entangled his shirt sleeve in the machinery. He instantly grasped the spokes of the wheel, was whirled around several times, and then fell to the ground. His clothing was torn to shreds. Five minutes later he was found in a state of deep syncope; his jaw and both shoulders were completely dislocated.

In five cases (11, 21, 30, 55, 57) it was definitely reported that the dislocations were caused by violent muscular contractions incident to epileptic convulsions. In case 12, puerperal convulsions were the causative factor. In five other cases muscular action was the provocative force. In case 1, the displacement occurred during unusually violent efforts to control a struggling animal; in case 6, the patient, raising over his head a calf, was forced, by the animal's struggles, to let it fall backward. In case 14, the displacement followed the contraction of the great pectoral and latissimus-dorsi muscles of each side. The patient, standing insecurely on the edge of a loaded coal truck, attempted to maintain his balance by resting one hand on the coal and the other on the arched end of the wagon. His feet slipped, and, while endeavoring by a sudden effort to save himself from a fall, he "felt something give" at his shoulders. On rising, he was unable to use either arm. "When he slipped, the weight of the trunk fell, in part at least, on the outspread arms; in the sudden effort to support the trunk, the two pairs of muscles just mentioned were probably among the first to contract. Acting simultaneously, the glenoid cavities being the fulcra, their normal effect is to press the arms to the side. On the present occasion, however, the hands became the fulcra, being firmly supported on the wagon, and the head of each humerus was jerked inward by muscular contraction at a moment when the bones were in a position favorable to the displacement."

The remaining cases were caused by external violence, the causative force being applied either directly to the shoulder or transmitted indirectly to the articulation, as by a fall upon the outstretched hands (17), upon the extended elbows (23).

In the following three cases, the injury can be attributed to direct violence. In case 46, the patient, while conveying a barrel down cellar steps, slipped and fell upon his abdomen and right side. He was caught between the steps and the barrel, the latter passing over his back. In case 24, the patient, during a heavy storm, was walking along a high stone wall. The wall suddenly crumbled and, striking the patient's right shoulder, threw her forcibly to the ground directly on her left shoulder, and buried her in the debris. In case 31 a miner pushed a heavy truck against a prop supporting the roof of a coal pit; roof gave way and fell on the patient's back, burying him in a heap of rubbish. He was finally pulled out by the right arm.

Examples of dislocations due to indirect violence follow. In case 5,

patient was thrown from his cart and fell head downward, alighting upon his hands. In case 8, a porter, to receive a sack of grain upon his back, leaned forward and held on to the rear of his wagon with both hands. While still holding fast to the wagon, the sack fell heavily on the back of his neck and violently forced the trunk of his body forward. In case 45, the forcible elevation and traction of the arms caused the head of the humerus to impinge on the lower border of the capsule, thus favoring its exit. In case 16, patient, working upon a scaffold, lost his footing and fell, striking the ground with both elbows at the same time. In case 17 the patient fell from his carriage, his arms extended in front of him; the force of the concussion was received upon his hands. In case 22 the forcible elevation of the arms against the body by a fall through a narrow trapdoor thrust both humeral heads out of their sockets. In case 29, patient fell from a tree, a distance of forty feet, on his outstretched arms. In case 34, patient fell into the water. He was pulled into a neighboring tug by his extended arms and immediately felt severe pain in both shoulders and arms; both humeri were dislocated. In case 36, a stout woman, tripping over a carpet, fell forcibly forward, the weight of her body being received on both outstretched forearms and elbows. My patient fell from a ladder, striking the ground with both hands, arms and forearms being fully extended.

From the standpoint of prognosis and treatment, shoulder dislocations can be classified into recent and old. Dislocations become old through faulty diagnosis, faulty attempts at reduction and often through surgical neglect. In old dislocations, the articulation itself and the peri-articular tissues are the seat of structural changes. The anatomical relations of the head of the humerus and of the glenoid cavity are altered. The glenoid fossa may be partly or wholly obliterated by cicatricial tissue, calcified cartilage, etc. (52). Case 41 presented fully developed false shoulder-joints. In old dislocations the various bloodless manipulative and other non-operative procedures are often, owing to these changes, powerless to effect either an anatomical or a functional cure. There were eight old dislocations varying in age from six weeks (42), nine and one-half weeks (29) to several years (21). Cases 12, 14, 23, 52 and 58 were of several months' duration.

All cases not referred to before (dissecting- and autopsy-room cases excluded) were recent in nature. My case (59) was seen and reduced two hours after its occurrence.

There are several anatomical classifications in current use. Lack of uniformity in nomenclature is regrettable, is misleading. So as not to vitiate the accuracy of this analytical study, we have, in each case, quoted the reporter's words. In thirteen cases (1, 3, 4, 5, 11, 12, 25, 26, 27, 30, 40, 41, 53), the anatomical type of displacement is not stated or is not precisely described. The exact anatomical relations of the displaced head

are either not given or unqualified expressions as "backward" or "downward" displacement are used.

In thirty-six cases both dislocations were of the same anatomical type, and were symmetrical or closely symmetrical. In case 56, a double "*luxatio erecta*," the humeri were fixed in vertical elevation, both glenoid fossae were empty, both shoulders presented a distinct hollow beneath the acromion process, and in each axilla the humeral head could be palpated as a hard, globular mass. In a bilateral subclavicular dislocation (13) each humeral head was lying against the second and third ribs, just below the clavicle. In case 34, a bilateral intra-coracoid dislocation, the head of each humerus could be felt to the inner side of its corresponding coracoid process; the inward displacement was more marked on the left side. Case 57 belongs to the subacromial, and case 18 to the supracoracoid type (verified at autopsy). Case 55 was a bilateral and symmetrical subspinous dislocation, each humeral head being palpable beneath the spine of its corresponding scapula.

Different reporters use unlike terms to designate like displacements. The description given in the case reports does not enable one to differentiate subglenoid (43 and 52) dislocations from those termed axillary. Nevertheless, we use here the nomenclature found in the original publications. In two cases (36, 44) the reporters state that the head of the bone was displaced into the axilla. In my case, the head of the bone was palpable on each side immediately below the coracoid process of the scapula.

In six cases the dislocations were bilateral and in the same general direction, but dissimilar in anatomical type. A subglenoid and a subcoracoid dislocation were present in three cases (2, 36, 47). In case 7, the left humerus was displaced into the axilla, the right under the clavicle. In case 33, the head of the left humerus was immediately below the subcoracoid process, the head of the right humerus had ruptured the muscle in its path and was subclavicular. In case 9, the left humeral head rested on the anterior margin of the lower border of the scapula just below the glenoid cavity, and the right humeral head was prescapular, lying between the anterior surface of the bone and the subscapularis muscle. In case 15, the left humerus was below the coracoid process and on the right side, the head of the humerus could be felt upon the dorsum of the scapula, a subspinous dislocation. Case 20 presented a subcoracoid and an intra-coracoid dislocation.

Very little demonstrated pathology is recorded in the case reports because these dislocations, (a) unless complicated by great shock (56), associated injuries (3), senility, marasmus (20), etc., are not fatal and therefore rarely come to the autopsy table; (b) unless irreducible by bloodless methods, they do not reach the operating-table. To conform to the plan outlined at the beginning of the article, we record only the pathology actually demonstrated and reported in our series of cases.

In shoulder dislocations, the articular and peri-articular soft tissues (20) are contused, lacerated and infiltrated with blood. The synovial fluid is blood-tinged and increased in amount (13). A tear of the joint capsule (9, 13, 20), through which the head of the bone has escaped from its normal habitat, is present in all cases. The greater frequency of forward and downward displacements is due to the fact that the capsular tear is usually on its anterior and inner portion (20), at its lower aspect (56). The capsule at its lower portion is not reenforced by any ligament or muscle. The capsular tear and the untorn portion of the joint capsule control, determine in a large measure the type of displacement. In some cases there is recorded a detachment of the subscapularis, the teres minor, the supra- and infra-spinatus muscles, singly or together, from their insertion. At times a bony fragment consisting of the outer shell or cortical layer of the humerus is torn off with these muscles. Fractures of either the greater or lesser tuberosities are not uncommon. They vary in extent, may constitute a formidable obstacle to reduction and predispose to relaxation.

The diagnosis of these fractures is difficult (9) because the detached fragment cannot often be felt and crepitus cannot often be elicited. The only certain means of diagnosis is by radiogram; but one must bear in mind that a torn subdeltoid bursa full of clotted blood may, by throwing a shadow, simulate a bone-fragment.

The following associated injuries are recorded: Bilateral fracture and detachment of the greater tuberosities (9, 58), fracture of the right coracoid process near its base (9), compression of the axillary nerves and vessels (56), contusions of various portions of the body (31, 43). In case 46, the fracture of the lower end of the right radius, is to be considered a related injury. As distal, though not related, associated injuries, the following are reported: Skull fracture (9), fracture of the lower third of the femur (35), compound fracture of the middle of the left leg (39), complete (bilateral) dislocation of the jaw (40), gangrene of right foot (52). Fracture of the surgical neck of the humerus was not present in a single case. It is not rare in unilateral dislocations.

There are symptoms that are common to all shoulder dislocations: pain (5, 23, 45); loss of function (21, 54); rigidity (42); "patient is unable to use his arms" (48, 58); in my case the loss of function and joint-rigidity were complete. There are symptoms that occur only in certain types of displacements: the location of the humeral head, the position of the elbow, etc., differ in the various anatomical forms. In complicated cases, one finds, in addition, the alterations of function, of structure and of contour due to the co-existing injuries.

In all bilateral shoulder dislocations, note the direction of the axis of each humerus, note the relations of the bony landmarks of the shoulder

region, note the extent of functional impairment and the degree or range of joint-mobility. Any deviation from the normal is symptomatic of underlying pathology.

In unilateral dislocations, to establish a diagnosis, one compares the injured shoulder with the unaffected. In bilateral dislocations, the clinician cannot avail himself of this aid as both shoulders are, most always, symmetrically deformed, the measurements of both sides often not differing half an inch (31); at times they are similar (54). In my case, the measurements of both arms were practically identical. Secure full exposure of both shoulders by divesting upper portion of chest of all unnecessary clothing.

The rotundity of the shoulder depends partly on the head of the humerus being in its proper place and partly on the integrity of the deltoid muscle. Therefore, in all inward, downward or backward displacements of the head of the humerus, the normal contour of the shoulder is lost and there is present a double deformity: a distinct flattening of the shoulder region, due to the absence of the head of the bone from its normal place, and an abnormal bulging due to the presence of the displaced head in its new habitat. In dislocations, the deltoid slopes straight from the acromion, or sinks in, having an indented appearance at its insertion. An empty glenoid cavity (23, 54) and abduction of the arm accompany all shoulder dislocations. "The roundness of the shoulder was quite gone" (15). "Both shoulders were flattened and both arms were abducted from the chest wall" (45, 54). In my case, though patient was obese, the emptiness of the glenoid cavities could be demonstrated and the flattening of both shoulders was typical.

In all shoulder dislocations, the head of the bone can, by painstaking inspection and palpation, invariably be detected in an abnormal location. "The head of the humerus could be readily felt under the pectoral muscle" (2). "Head of bone could be readily felt upon the dorsum of the scapula" (15). "In each axillary space, the head of the corresponding humerus could be palpated" (22, 24). In case 34, the head of the right humerus was below and a little to the inner side of the coracoid process; the head of the left humerus lay farther inward. In cases 23 and 40, and in my case, the humeral heads could be felt under the coracoid processes; rotation of either arm caused rolling of the corresponding ball-shaped head.

In all bilateral dislocations of the humerus there is a distinct hollow or hiatus beneath the acromion process (2, 44), this hiatus being less noticeable in sub-acromial dislocations (57).

In old and recent dislocations, the deformity is so characteristic that the diagnosis is often made by inspection and palpation. In obese and muscular individuals, exact diagnosis is more difficult. "There was a hiatus under each acromion, but in consequence of the mass of adipose tissue it was not possible to feel the head of the humerus in the axillary space" (44).

In all cases, it is advisable to have both shoulders radiographed. The radiograms serve as a record, as a guide; they often clear up many unsuspected conditions (54, 58), and establish the diagnosis upon an indisputable basis (52). "The head is displaced downward; it is entirely below the glenoid cavity, and is away from the thoracic wall" (56). In my case, on both sides, the radiograms showed distinctly the integrity of the acromion, of the coracoid process, of the clavicle, of the head and anatomical and surgical necks of the humerus. The acromio-clavicular articulations were normal. Each humeral head was away from the chestwall, was away from the glenoid fossa and immediately below the coracoid process. Radiograms show the exact location of the humeral heads, reveal the presence or absence of complicating osseous lesions: fractures of the humerus, of the surgical neck and coracoid process of the scapula. They remove doubts from the clinician's mind. Stereoscopic pictures are less liable to misinterpretation.

Complicating injuries of the nervous system are evidenced by motor, sensory and trophic disturbances. Some of these nervous lesions are irremediable; others, such as contusions, compression, stretching and division (partial or complete) give, under appropriate treatment, a hopeful prognosis. At the first examination, one should exclude an involvement of the circumflex or other nerves; sometimes the nerve involvement affects all the muscles of the upper extremity. "One month after reduction of the dislocations, patient was unable, owing to a partial paralysis of the deltoid, to completely elevate left arm" (45). In non-reduced cases, the nerves may be compressed by scar-tissue. By taking the pulse, one is enabled to ascertain the presence or absence of important vascular injuries.

Including my personal case, we analyzed fifty-nine cases. Six cases, for various reasons, were untreated. In case 3, patient was dead at time of diagnosis. Case 9 died from a skull fracture five hours after being brought to the hospital. In case 13, patient died from a broncho-pneumonia shortly after admission to hospital and before the dislocations were reduced. Case 18 was an autopsy-room subject. Case 41 was a dissecting-room subject. In case 21, for some reason not stated, no attempt at reduction was made. To these may be added a case of double luxatio erecta (56); the dislocations were reduced but patient died of shock from the associated injuries. There were eight old dislocations; their treatment and the results obtained are discussed at the close of the article.

Recent dislocations are reducible or irreducible. Primary irreducibility is usually due to some complication. Associated fractures, detachment of either humeral tuberosity, especially if the detached fragment lie in the glenoid cavity, hinder reduction, predispose to recurrence. The indication to suture or nail the detached fragment to its normal place may prevail.

Recent dislocations call for immediate reduction. At the outset, let us emphasize that the treatment of choice is non-operative. In the treatment

of shoulder dislocations, operation is a last resort. Only two recent dislocations were subjected to operation. In case 34, the dislocation on the right side was reduced with the aid of ether anesthesia without much difficulty. All manipulative efforts failed to reduce the one on the left side. On the following day the joint-cavity and the left humeral head were exposed by an anterior incision. The humeral neck was crossed above on its outer side by the untorn tendon of the subscapularis.

Anesthesia facilitates reduction, it abolishes pain, it overcomes muscular spasm and the patient's resistance; with its aid, one can by gentle manipulation gradually break up adhesions opposing reduction (36). It is especially serviceable in muscular individuals (35).

In five cases (8, 28, 38, 53, 54) in which reduction was obtained by non-operative methods, the text makes no reference of the use of anesthesia.

In nineteen cases (1, 2, 4, 5, 7, etc.), non-operative methods, unaided by anesthesia, successfully effected reduction. In case 33, the left humerus was reduced without anesthesia, the right humerus, with anesthesia. In twelve cases, to effect reduction, non-operative methods had to be supplemented by general anesthesia (19, 20, 45, chloroform; 36, 43, ether, etc.). In my case, to secure reduction, the patient was etherized.

In every recent case but one (34) in which non-operative methods were employed, the head of the bone was successfully replaced in its normal habitat. At times, one side is reduced easily, but to effect reduction of the opposite side, difficulty is experienced (39, 44); anesthesia may be required (33, 36). In many cases, the clinicians noted the occurrence of a peculiar jerk, of a distinct audible snap upon return of the bone to its socket (1, 2, 4, 5, 15, 20, 46, 51). Instant relief from pain often follows reduction. In seven cases (6, 8, 25, 27, 30, 47, 57) it is not stated that attempts at reduction were made.

Among the non-operative methods, Mothe's method was used in one case (20), Kocher's method in ten cases (22, 32, 45, 46, 49, 50, 51, 53, 54, 59). In the remaining twenty-seven cases reduction was effected by various bloodless manipulative procedures supplemented by extension and counter-extension (1, 5, 24, 31, 44, 55). The extension is made by the operator, his assistants, weights or pulleys, counter-extension, by axillary pads, by heel in the axilla (2, 4, 7, 15, 16). In fifteen cases the method employed to secure reduction is not described in detail (10, 11, 17, 19, 26, 28, 33, 35, 36, 38, 39, 40, 43, 48, 56).

After reduction, the shoulder must be immobilized long enough to allow the repair of the capsular tear. It is also imperative that passive and active motion, and massage, be instituted early enough to avoid ankylosis.

The treatment of old dislocations requires great care and individualization. Owing to the close interrelation of treatment and results, it is

best that they be discussed together. There were eight old dislocations of from six weeks to several years standing. In old dislocations, the difficulty of reduction is due to various factors: Cicatrization and contraction of the capsular tear (52), inflammatory adhesions binding the head of the humerus to the surrounding structures, obliteration of the glenoid cavity, adhesion of the joint-capsule to the periphery or to the entire glenoid fossa, interposition of tendon or muscle, etc.

Some old dislocations are amenable to bloodless manipulative procedures, others require operative aid. Though not always successful, the former should always be first attempted; successful bloodless manipulative methods secure better functional and anatomical results than operative treatment. When manipulation, traction by pulleys, etc., supplemented by anesthesia, fail to obtain reduction, operation, if not contra-indicated, is to be performed. Arthrotomy permits direct inspection of the articulation and of the contiguous structures. It enables the operator to determine, to remove obstacles to reduction. "The tendon of the triceps prevented the head of the bone from reascending and slipping back into its normal place (56)."

Unreduced dislocations are accompanied by deformity and disability, varying in degree, but permanently impairing the earning capacity of a handworker. Operative treatment has a very low mortality, almost nil, and though final results are not always perfect, pain and circulatory disturbances are relieved. There follows a very fair restoration of function.

In elderly people, forcible attempts at reduction of old shoulder dislocations has fractured the humerus. During careful (author's words) attempts at reduction of a dislocation of several months' standing, the humerus was fractured immediately above the insertion of the deltoid muscle (52). Atrophy, adhesions of the surrounding muscles and soft parts and adhesions of the torn joint-capsule, all these tend to make, at times, reduction by manipulation difficult, impossible, or extremely dangerous. In case 12, seven months after the accident, reduction was secured by bloodless methods. In case 14, reduction by pulleys and counter-extension was half-heartedly attempted, was unsuccessful. The case was abandoned to nature; deformity and disability persisted. Case 21 was untreated. Case 58 was of six months' standing. Attempts (Kocher and other) at reduction under anesthesia were unsuccessful. Patient being 65 years old, operation was not advised. Case was treated by massage, active and passive motion, with indifferent results. In case 23, though the humeral heads had remained out of their sockets twelve weeks, reduction was effected by manipulative methods (elevation of the arms, etc.) with the aid of anesthesia. Joint-motion was not fully recovered. On right side, arm could be abducted to the horizontal; on left side functional recovery was more incomplete. In case 42, the value of judicious persistency is demonstrated. One month after the accident two attempts, two days apart, were made under anesthesia

to reduce the dislocation with the aid of pulleys. They were unsuccessful. Two weeks later another surgeon effected reduction by the aid of pulleys.

Resort to a cutting operation when convinced of the futility of further use of non-operative procedures. In the young, reduction is more easily effected, presents less difficulty than in adults, and bloody intervention is rarely justified. In case 52, during attempts at reduction of the dislocation on the one side, the humerus having been fractured above the insertion of the deltoid, the joint was opened. Owing to the partial obliteration of the glenoid fossa by cicatricial tissue and by osteophytic outgrowths, reduction was difficult. The glenoid cavity was cleaned out, and cicatricial bands opposing reduction were cut. The head of the bone was replaced in its normal position. Three months later the arms could be abducted to the horizontal. The remaining case 29 was operated on by Sir Joseph Lister nine and one-half weeks after the accident. Each humerus was protruded through the incision and all the rotators divided at their insertion; at the second attempt "the pulleys drew the bone into the proper position." Two months after discharge, patient came to the hospital for inspection and it was seen that arms could be raised to a right angle with only slight movement of the scapula; rotation was much improved. Patient stated that he could do hard agricultural work as well as ever.

The incision giving access to the articulation may be made along the posterior or the anterior axillary fold. All cicatricial bands impeding reduction are cut, muscles preventing reduction are divided and subsequently sutured. The head of the bone being replaced into the joint-capsule, the latter is closed as completely as possible.

In the recent dislocations, the ultimate results are recorded in some cases; not mentioned (twenty-eight cases) in others. In eight cases (7, 10, 22, 24, 40, 48, 57, 59) recovery was complete. In some of the remaining cases the late results are reported as follows: "Eight weeks after accident patient was quite well" (31); "seven weeks after accident patient was able to do light labor" (33); "patient suffers from chronic rheumatism; function has been slow in returning; it is not yet complete" (36); "five weeks after injury arm could be elevated to horizontal position" (51), etc.

The prognosis in bilateral shoulder dislocation is influenced by many factors, chief among which should be mentioned age of the patient and of the dislocation, the patient's occupation, the associated injuries and the treatment instituted. As a rule, the older the patient (36) the longer the period required for recovery. As to the age of the luxation, it is agreed that dislocations call for immediate reduction. Sequelae are thereby forestalled; nothing is gained by delay. Convalescence is longer in handworkers than in intellectuals; delicate hand movements are late in returning. Associated injuries require appropriate treatment. In some cases full function is not

restored before the detached muscles or tuberosities are permanently fixed in their normal place.

Bloodless manipulative methods, supplemented by electro-, mechano- and hydro-therapy give the best results. The two dislocations, right and left, are reduced separately, usually by the same method and at the same sitting. The duration of immobilization varies in different cases: 12 days (31), 5 weeks (36), etc. We are of the opinion that most clinicians err in prolonging complete mobilization beyond two weeks. About the tenth day gentle passive motion and massage and electrical treatment should be instituted.

After an arthrotomy and division of extensive adhesions, even though the bone is replaced to its normal position, some joint-stiffness is to be expected. This is generally compensated for by a movable scapula. The restoration of the rotundity of the shoulder and the absolute relief of pain give much satisfaction to the patient.

After reduction of the dislocations both shoulders are immobilized, the arms fixed in front of the chest by adhesive plaster, bandages, etc. The patient is practically helpless; he cannot feed himself, he cannot dress himself, he cannot attend to many of his other needs; he must be provided with an attendant.

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HOW ACQUIRED CHARACTERS ARE ACQUIRED

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If a man takes up physical training he will get strong muscles as a result of his muscular exercise. If he continues his exercise and gradually increases it as he gains in strength, his muscles will grow more and more powerful as the years go by. If he should change from an active life to a sedentary one, his muscles will gradually lose their power, and if he continues his sedentary life and becomes more and more inactive, he will continue to lose muscular power indefinitely.

As he may be either active or inactive in the same environment, it is evident that it is not the environment which either adds to or takes away from his muscular powers. In fact, the increase and decrease of muscular powers is determined directly by the amount of exercise involved, and by nothing else.

We may not know how or why a muscle gains in power by being exercised, but we know that fact. We also know that it is by a physiological process of some kind, and we know that it is a characteristic of a living animal and not of a dead one. The word "biology" comes from a Greek word meaning *life*, and as again in power comes in the living animal and not in the dead one, we know that the results of exercise are biological in nature. In fact, the living animal is the only kind that can exercise.

When a person is attacked by some bacterial or protozoon disease, he is attacked by living things, and the cells of the body must fight those living things very much as our ancestors fought other animals before weapons were invented. It is a stand up fight to a finish, and the victory goes to the side which has the most power. And in this fight, each side builds up its powers by the exercise of fighting just as a man builds up his muscular powers by gymnastic training.

It may appear novel that little plants known as bacteria can build up powers by a struggle, but such is the fact. In his experiments, Pasteur discovered that when pathological bacteria are kept on some artificial food, as broth or potato, they gradually lose their virulence, and virulence is nothing else than power of attack. When fighting in the blood stream of a host, bacteria must exert themselves to keep alive, and it is the exertions of the living things which makes them dangerous. When bacteria are relieved from getting their food at the expense of a resistant living thing and are fed on non-living material, they change from active to sedentary lives. The loss of their virulence is a loss of powers due to failure to exercise them.

By long continued cultivation on artificial food, Pasteur got anthrax so feeble that it could not even survive in the blood of a mouse. But by taking such weak virus and inoculating it in an animal as weak as a guinea pig one day old, it could survive there, and in fighting this feeble

blood reaction it gained in its own power. He was then able to pass it along step by step to stronger and stronger animals, and at each step it became more powerful than before.

When a person becomes ill as the result of an attack by some bacteria it is because he did not, at that time, have the power necessary to resist the attack. When he recovers, he is immune, for a time at least, to the same kind of attack from other bacteria. The fact that he is immune shows that he has a power he did not have before, and that new power is an acquired character. And it is a biological character because it is characteristic of a living thing as distinguished from a dead one. A dead animal has no power of resisting any kind of bacteria.

Most if not all bacterial diseases are communicated from person to person, and the denser the population the more frequently will such transfer occur. And the more frequent such transfers are, the more will the virulence of the bacteria be increased, as it was increased in the anthrax bacillus by passage from animal to animal.

Very slowly through the middle ages the population of Europe increased, but this increase was mostly in the country and only slightly in the cities. As a result of the invention of the steam engine and labor saving appliances, the factory system began to come into existence about 1800, and this in turn caused a flow of population from country to cities. The modern growth of cities may be dated from about that time.

Tuberculosis is one of those diseases which is communicated from person to person, and the frequency of the communication is proportional to the density of the population. With the beginning of the growth of cities there was an increase in the amount and virulence of tuberculosis which, in England, continued well up to the middle of the nineteenth century. But beginning about 1850, the reports of the Registrar-General for England show a steady decline in the tuberculosis death rate up to the present time. And this is true in spite of the fact that cities in England grew rapidly after 1850.

Autopsies show that of the adults who die from other causes, the great majority had been attacked by tuberculosis and had recovered without being aware of the attack. The person who meets and defeats an attack of tuberculosis develops a power of resisting that disease, and that new power is an acquired character. When cities began to grow they were made up of people moving from the country where tuberculosis was relatively rare. But as time went by, the later generations were more and more descended from people who had acquired the power of resisting tuberculosis by the process of fighting it. The fact that resisting power developed in the parents is inherited by the offspring is evident from the decrease in death rate in face of increased infection coming from increasing crowds.

Smallpox is a highly contagious disease. There is a history of small-

pox running back about nine hundred years, but until about 250 years ago it was not clearly distinguished from measles and scarlet fever. However, we know that during those centuries smallpox gradually increased in destructiveness, and was worse in the eighteenth century than ever before. During those centuries, the more susceptible died and the more resistant survived, but this "selective death rate" did not bring about any improvement, as is evident from the record of the eighteenth century.

Tuberculosis begins quietly, lasts a considerable period in a person's life, and is never absent where there is a fairly large population. Smallpox is a sudden and violent disease. In Europe it swept over the country in epidemics usually separated from each other by periods equaling about a human generation. When an epidemic subsided, those persons left alive were resistant to attacks by smallpox. But when the disease disappeared, there was a period of twenty, or thirty, or forty years during which people did not have to exert themselves combatting the disease, and because of this lack of activity the resisting power gradually subsided. Smallpox would attack a community because many persons did not have the power of resisting such attacks. It would disappear when no one was left except those which had the full power of resistance, and it would come back again when a large part of the population had lost the power of resisting it.

About 1800 vaccination became general. Vaccine virus is nothing else than a weak form of real smallpox. It became weak in meeting human reaction because it was cultivated for a long time in the blood of calves and not in the blood of humans. Because the vaccine virus is weak, the system of the person vaccinated easily overcomes it. But in fighting the weak form of smallpox, the system develops its powers of resisting fully virulent smallpox germs when they put in an appearance. It is a case of physical training of the cells of the body.

At the present time, smallpox is not nearly as dangerous a disease to an unvaccinated person as it was to the men and women of the eighteenth century. It is not so dangerous because the people of today are more resistant than were the people of two hundred years ago. But the people of today in Europe and America are the descendants of two or three generations of vaccinated persons, and they have the resistance developed by their ancestors in overcoming vaccine virus.

The powers developed in muscles by physical exercise are acquired characters, and are inherited just as fully and completely as are the powers which are developed in fighting disease. This is best seen in the trotting horse because there we have records of the amount and kind of exercise taken, when it was taken, and the relationship between the parental exercise and the inherited quality of the offspring. The records analyzed in investigating this matter would make a big book. Here we will consider only an outline of the results found.

It was not until 1845 that any horse in the world succeeded in trotting

a mile in two minutes and thirty seconds. Now we have a number of horses capable of trotting a mile in two minutes, and hundreds can trot in 2:10. These fast trotters came from slow stock, and we have the details of the process by which they were produced. The records show that for more than eighty years, each generation in succession inherited more trotting power than its parents inherited. Our fast trotters of today have a vastly better trotting inheritance than did their progenitors of eighty years ago.

Because this improved trotting power is inherited we know that it is biological in character, and being biological we know that it must be the product of the activities of life. Now the only activities of life which increase trotting power is the exercise of trotting. Such increase is not the product of the environment. A horse cannot become a fast trotter by standing still, no matter what the environment may be. Trotting power developed by trotting exercise is a biological character biologically acquired, and there is not a shred of evidence to indicate that it is not biologically inherited.

But in this case we do not need to depend upon argument. The facts of record tell the story. Improved trotting inheritance is found in the offspring of those horses which developed their own trotting powers by trotting exercise before producing their offspring, and in no other kind of offspring. We got the improvement in seven generations which we could not get in ten generations, the time being a century. This simply means that it takes years of trotting work to acquire a high degree of trotting development, and that the improvement came through the offspring of old animals and not through the offspring of young ones.

The same thing is true of acquired mental development coming from mental exercise. Such mental development in man continues up to the last years of life, and we get descent to eminent men through the later children of families and not through the earlier ones. The average age of fathers, grandfathers and great-grandfathers in the pedigrees of eminent men is forty years. The corresponding ages in the pedigrees of the stocks from which the eminent men rose, is thirty-two years. And when the time between generations is reduced to something less than thirty years, we get mediocre and feeble-minded stock.

This last may be seen by considering the British peerage. In 1387, John Beauchamp was raised to the peerage "for his good services." This was the beginning of the process of producing a peerage out of the superior men of the realm. It was a practical application of what the eugenists recommend to improve the human race, and it has been continued down to the present time. The sons of selected men married the daughters of selected men, exactly as the eugenists recommend, and the title was carried down through the eldest son of the eldest son. There have been some eminent men among the hereditary peers, but in all of the years since 1387 there have been produced none of that kind when the average time between generations was less than thirty years. It is not possible to produce, or

even maintain, superior mentality in a population unless there is given time for each generation to acquire mental development by mental exercise before it produces the next generation.

There is plenty of evidence to show that acquired characters are inherited, and not a particle of evidence to the contrary. Those things said to show the contrary are not acquired characters at all. They are non-biological effects produced by the environment, and there is nothing to indicate that non-biological things can be biologically inherited. If anyone says that any particular thing is an acquired character and not inherited, look critically at the thing to see if it is characteristic of a living thing and not of a dead one, and is acquired by the activity of the living thing which has it. Those only are biological. The inheritance of acquired characters means the biological inheritance of biological characters biologically acquired, and biology means life.

HEALTH SURVEY AT THE CHICAGO BRIDEWELL

By EDGAR A. JONAS, LL.B., J.D.

The Municipal Tuberculosis Sanitarium recently engaged in a factory survey throughout Chicago, in an effort to uncover new cases of tuberculosis. During the course of the work it occurred to me that it would be of interest and value to conduct a similar investigation at the Bridewell.

Poverty, ignorance and tuberculosis go hand in hand and it seemed reasonable to suppose that among the sixteen or seventeen hundred inmates of the Bridewell, culled from the lower strata of the proletariat, we would find more cases of tuberculosis than among more favored classes.

The survey was, accordingly, made. The work was begun April 24 and Completed May 10, 1922. In all, 1,181 inmates were examined and a physical chart filled out in each case.

As the examination proceeded, it was noted that the proportion of non-tuberculous diseases seemed unusually high; the work was accordingly slowed and the remaining 784 prisoners were stripped and exhaustively examined for non-tuberculous as well as tuberculous conditions.

The survey was conducted by five physicians and four nurses of the dispensary staff of the Municipal Tuberculosis Sanitarium. Of the five physicians, three were ex-internes of Cook County Hospital. Their training in such an institution with its splendid facilities, its routine service, and wealth of clinical material, rendered them especially qualified to conduct an operation of this kind. The other two were selected for their general medical ability and diagnostic skill.

Of the 1,181 inmates examined, 136 or 11.5 per cent were found to be tuberculous; 79 or 6.64 per cent were placed under observation and 966 or 81.86 per cent were non-tuberculous.

CASES OF TUBERCULOSIS

Pulmonary tuberculosis	129
Tuberculous spine	2
Gland tuberculosis	5

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136

• RACE

White, 70 per cent. Black, 30 per cent.

AGE

Under 35, 55.8 per cent. Over 35, 44.2 per cent.

OCCUPATIONS

(Of those having tuberculosis and under observation)

Laborer	46
Fireman	11
Chauffeur	9
Cook	9
Clerk	9
Waiter	8
Machinist	7
Teamster	7
Baker	6
Iron moulder	6
Metal worker	5
Salesman	5
Mechanic	5
Printer	4
Painter	4
Porter	4
Tailor	4
Butcher	3
Barber	2
Bricklayer	2
Boxmaker	2
Carpenter	2
Engineer	2
Janitor	2
Peddler	2
Switchman	2
Advertising man	2
Artist	1
Bartender	1
Blacksmith	1
Cooper	1
Conductor	1
Dishwasher	1
Electrician	1
Farmer	1
Freight handler	1
Plumber	1
Plasterer	1

Soldier	1
Seaman	1
Showman	1
Steamfitter	1
Lineman	1
No occupation	2
Not shown	27
Total	215

HABITS

Alcohol

Excess	57
Moderate	47
None	90
Not shown	21
	215

Tobacco

Excess	58
Moderate	104
None	30
Not shown	23
	215

Drugs

Morphine	13
Cocaine	1
Morphine and cocaine	1
None	200
	215

REASON FOR
INCARCERATION

Disorderly conduct	32
Intoxication	22
Burglary	15
Larceny	12
Carrying concealed weapons	9
Non-support	8
Assault and battery	4
Bootlegging	3
Confidence game	3
Drug cure	2
Forgery	2
Suspicious character	2
Assisting prisoner to escape	1
Begging	1
Contributing to delinquency of child	1
Rape	1
Shoplifting	1
White slaver	1
Not shown	95
	215

UNSKILLED LABOR

It will be seen from a consideration of the statistics that by far the largest per cent of tuberculosis was found in the class of unskilled labor. The laborers who find their way to the Bridewell are, to a large extent, recruited from the Canal, West Madison and Clark Street districts: the districts of the cheap labor agents, the barrel house and the flop house. Sporadically they go out from the labor agencies to work with railroad or constructions gangs. They return after a couple of months with their earnings, to resume their checkered careers in the barrel houses and lodging houses. They are reckless with their savings and are soon again picked up by the police on charges of disorderly conduct, assault and battery, intoxication and bootlegging and returned to the Bridewell.

Alternating periods of hard work and dissipation, indulgence in moonshine, cheap, unwholesome food, the unhygienic environment of the flop house, lower their resistance, light up old tuberculosis foci and predispose, of course, to the degenerative diseases.

WOMEN PRISONERS

There were only about 65 women inmates at the Bridewell. For the most part, the women were incarcerated on charges of disorderly conduct, drunkenness and drug addiction. The drug addicts had been treated by the Bridewell physician and the drug gradually withdrawn over a period of ten days. They showed practically no abstention symptoms and seemed fairly comfortable. It was noted on examining the morphine addicts that it was difficult or impossible to make them breathe properly; the respiration was shallow, ineffective and many of them were found to have old quiescent or arrested tuberculosis.

NON-TUBERCULOUS CONDITIONS

As has been stated 784 inmates were completely stripped and subjected to a thorough examination. The non-tuberculous conditions found are tabulated as follows:

TEETH		RESPIRATORY SYSTEM	
Dental caries	675	Pharyngitis, chronic	500
Pyorrhea	400	Chronic tonsillar infection	41
		Hypertrophied tonsils	25
		Emphysema	19
		Bronchitis, acute and chronic..	19
CARDIAC		ABDOMEN AND GENITAL ORGANS	
Arterio sclerosis	73	Varicocele	66
Myocarditis	29	Inguinal hernia	15
Mitral insufficiency	21	Buboes	8
Mitral insufficiency and stenosis.	7	Gonorrhea	7
Aortic insufficiency	4	Syphilis	6
Fatty heart	4	Chancroid	5
Chronic endocarditis (unclassified)	2		
Dextro cardia (secondary to tbc)	1		

Umbilical hernia	4	Scabies	1
Enlarged liver	3	SPINE AND EXTREMITIES	
Architis	2	Flat foot	61
Epididymitis	2	Bunions	52
Bubo ulcer	1	Hammer toes	8
Femoral hernia	1	Kyphosis	6
Pus tubes	1	Scoliosis	5
Locomotor ataxia	1	Chronic rheumatism	5
SKIN AND GLANDS		Amputation of leg.....	3
Simple goitre	27	Ankylosis of shoulder joint....	1
Cystic goitre	1	Ankylosis of knee	1
Exophthalmic goitre	4	NERVOUS AND MENTAL	
—		Subnormal mentality	24
32		Paralysis agitans	3
Acne rosacea	14	Epilepsy	2
Cervical adenitis	12	Suspect dementia praecox.....	1
Acne vulgaris	10	Facial tick	1
Rhinophyma	4	Locomotor ataxia	1
Vagabond's disease	4	Hemiplegia	1
Hodgkin's disease	1	UNCLASSIFIED	
Psoriasis, generalized	1	Loss of right eye	2

MOUTH CONDITIONS

Consideration of these statistics develops some interesting facts. Marked dental caries and mouth neglect were found to be the rule among the prisoners. The survey physicians report that conditions in this respect were the worst they had ever seen. The great majority of the inmates had from two to six or eight old rotting stumps in their mouths, often associated with pyorrhea and inflamed or ulcerated gums. A very small minority ever used a tooth brush or made any pretense at mouth hygiene. Many of them explained that they wanted to care for their teeth, but that they had no money to buy tooth brushes and the institution did not furnish any. The consequence is that many of the prisoners remain for months without cleaning their teeth and the result from a health standpoint is deplorable.

DENTAL SERVICE

The dental service at the institution was found to be inadequate in the extreme. Since the first of the year, an appropriation of fifty dollars a month had been made for a dentist. It is, of course, absurd to expect that a dentist can give any appreciable amount of service for fifty dollars a month and it is only natural to suppose that a dentist on such a stipend will not come often, nor stay long.

The dental caries, abscessed teeth, pyorrhea, chronic tonsillar infections and other conditions now englected in these institutions will later bring a troop of destitute poor, incurably ill with chronic rheumatism, arthritis and heart conditions to the County hospitals and Oak Forest, where they will have to be supported by the community for indefinite periods.

It is cheaper to pay one full time dentist now than to support hundreds of incurables a few years from now. But, it may be argued, people of this type, even if they had their freedom, are too improvident to secure dental treatment. Such, however, is actually not the case; most of them will at least have the rotting stumps extracted because the stumps cause them discomfort; many of them will have tooth brushes; many will patronize the clinics at the dental schools. Those who have tuberculosis will receive free dental care as part of the treatment at the Municipal Tuberculosis Sanitarium dispensaries. In the corrective institutions they are shut in for periods varying from months to years; they cannot help themselves.

THROAT CONDITIONS

Five hundred of the inmates displayed a chronic pharyngitis. Usually there was no fever, sore throat or other discomfort complained of. The throat was a beefy red with dilation of the venules and enlargement of the lymph follicles. The exact causation of this condition was undetermined. The filthy, diseased teeth and gums may have been the operative factors. It was learned also that while the inmates of the Bridewell are not allowed to smoke, it is practically impossible to watch them continually, and they manage to evade supervision. They receive an allowance of chewing tobacco. This they moisten, powder and make into cigarettes, using newspaper as cigarette paper. Smoke from a combination of this kind must, of course, be very irritating to the mucous membrane of the pharynx and may possibly cause the condition.

HERNIAS

Fifteen inguinal, four umbilical and one femoral hernia were found. Many of the prisoners have enlarged inguinal rings. In most cases no truss was being worn and the patient had not considered surgical operation; many of them were laborers, who were inclined to take their disability rather lightly.

HEART

Heart conditions were fairly frequent and in most cases, the patient was unacquainted with his disability. Many of the lesions were compensated and the patients were told of their condition and given instructions as to suitable occupations and hygiene.

ALCOHOLISM

Two hundred and forty-five cases were found which showed distinct evidence of chronic alcoholism. They presented one or several of the physical characteristics of the chronic tippler: the alcoholic facies, acne rosacea, coarse alcoholic tremor or myocarditis. Two hundred and ninety others gave a history of moderate use of alcohol. Probably the majority of the cases who return at intervals to the Bridewell are the old alcoholics who are picked up by the police on charges of drunkenness and disorderly conduct and placed in the institution.

VENEREAL

The incidence of venereal disease may seem small; but it must be remembered that only cases showing evidence of active disease were tabulated. The records of the institution were not consulted and many of the cases had probably cleared up under the treatment of the Bridewell physicians. In institutions like the Bridewell, where the dregs of society, the improvident, the ignorant and the careless are temporarily incarcerated, it would seem a suitable procedure in the direction of preventive medicine to take a Wassermann in each and every case and if syphilis is present, to institute the necessary treatment. The prisoner should also, on admission, be subjected to a rigid inspection or examination for active venereal disease and if disease is present the necessary treatment should be given. It is good economics to pay physicians to do this work and so help to prevent the spread of the venereal plague.

MENTAL

No exhaustive psychiatric tests were conducted but twenty-four persons were found frankly subnormal even to superficial mental examination. What impressed the examiners most was the apathy, the indifference of the inmates to questions of their own health; their absolute ignorance of health matters and personal hygiene. They were only moderately interested in the fact that they had tuberculosis or heart disease and displayed little concern in the matter.

PHYSIQUE

The physical peculiarities that Dr. Lombroso in his ingenious book "*L'Homme Delinquent*" describes as characteristic of the born or instinctive criminal were conspicuously absent. There was no undue emphasis or noticeable predominance of the receding forehead, massive jaws, prognathic chin or asymmetric skull. As a rule, the shape of the skull and the contour of the features were fairly normal.

There were, of course, many different physical types at the Bridewell. Many were criminals or delinquents by accident and found themselves incarcerated as a result of an unfortunate sequence of circumstances; a drinking bout, a fight, a card game, disorderly conduct, domestic infelicity or non-support. This class of accidental delinquents had, as may be expected, no special physical characteristics. Then there were the chronic alcoholics presenting the physical stigmata of alcoholic excess; the drug addicts, malnourished, anaemic, with rather a high percentage of tuberculosis. Practically all the inmates were from the bottom rung of the social ladder and presented certain physical evidence of their social status; old scars from knife or razor cuts, tattoo marks (practically always of a frankly sexual nature), amputations of joints and limbs or the loss of an eye. In brief, more numerous and more serious physical defects and more evidence of neglect and ignorance were encountered than would be found in an equal number of the more favored classes.

THE PHYSICALLY HANDICAPPED

The most representative criminal class to be found at the Bridewell is perhaps the petty thief or the pickpocket. The prisoners of this type studied were found to be below par physically in most cases. They were small, undernourished, anaemic, evidently incapable of doing a day's physical work even had they wished to do it. It seems probable that an individual of this type is in many instances a pickpocket from necessity rather than from choice. He is physically unable to gain his livelihood in any other way. He has not been trained to an occupation suited to his physical condition and his lack of education bars him from suitable light employment. He must steal or he must starve.

Perhaps we have been over-emphasizing the mental aspects of the criminal or delinquent and failing to take into due consideration his physical makeup. A man of the laboring class who is physically handicapped and who is not equipped by educational training to fill positions suited to his physical condition, will soon become a drifter and eventually a delinquent or criminal.

When circumstances for which they are perhaps not fully responsible, take those physical derelicts, those criminals by necessity, to such institutions as the Bridewell, it is society's duty to try as far as possible to promote their physical welfare. They are the class that fill our poor farms and county hospitals and each individual who is salvaged and returned to the pathway of health is a distinct economic gain to the community.

HYGIENE AT THE BRIDEWELL

They are not taught hygiene and they do not live hygienic. They are locked in their cells at four-thirty in the afternoon and remain locked up till six or seven next morning. Of the sixteen hundred inmates, one thousand live in cells, often two to a cell, in which there are no toilet facilities. Two gallon cans without covers are supplied in lieu of toilets. The physical discomfort and moral degradation of this arrangement, even to those whose sense of common decency is far from keen, may well be imagined. It is only fair to state that the superintendent of the institution has tried for years to secure better health conditions at the Bridewell, but without avail.

To be fruitful in its results education propaganda must reach the poorer classes, the shiftless, the derelicts, and potential derelicts. The middle classes are already well along on the road of health education. Every great movement is from the bottom—of the people, for the people—and preventive medicine must be from the bottom. The proletariat must be taught to realize the importance of health to themselves and to the community.

People of the type found in the Bridewell are most in need of health education and receive it least. Afflicted with syphilis, gonorrhea and tuber-

culosis, in their ignorance and carelessness they are a menace to the public and the public from self-interest if nothing else, should undertake their supervision and education.

Health is a commodity that must be paid for and the community that skimps and displays false economy in its health program, in its campaign of preventive medicine, must pay an hundredfold, later, in the maintenance of hospitals for the advanced consumptive. It is entirely logical to suppose that the City of Chicago and Cook County will later pay a heavy tax on the policy that dictates economy in health supervision in such institutions as the Bridewell.

A HEALTH PROGRAM

We can teach these prisoners hygiene by compelling them to live according to the rules of hygiene during the period of their incarceration. By routine Wassermann tests we can pick out the cases of syphilis and subject the patients to suitable treatment. We can, by surveys, detect the case of tuberculosis and give him reasonable care, treatment and supervision so that he will not be a menace when he leaves the institution. We can, and we must, do away with the old type of Bridewell and County Jail. The penal institution with its filthy night bucket, overcrowding and wretchedness is a relic of the dark ages. The jail, in many instances, has been untouched by the wave of prison reform that has swept over the country. The penitentiaries have been modernized but the jail is as it was a hundred years ago. The jail, hygienic, clean, modern, will not be the less effective and jail reform from the health standpoint should be the next objective of the health worker.

The prisoner who is physically neglected today will tomorrow be a menace to the public, or, as an inmate of the poor form or county hospital, will become a charge on the community.

THE DOCTOR AND THE PRESS FACE TO FACE.*

By RICHARD J. FINNEGAN

Managing Editor of The Chicago Journal, Chicago

It is fitting for doctors and the press to meet face to face and discuss the things that they have been doing in common for many years. They can then work to better advantage hand in hand.

Most people regard the church, the school, the law and the press as the arms of organized society which carry the chief burden of the uplift of mankind and create that proper respect for government which allows the national to function in its most efficient manner.

In The JOURNAL office, for twenty years under the regime of John C. Eastman, our editor and owner, we have recognized the medical profession as one of the major propelling forces for collective progress and individual

*Address at the annual dinner of the Chicago Medical Society, October 10th, 1923.

advancement. It was the idea of the founders of our nation that freedom of the press was the most important right for which freemen should strive in order to maintain their freedom. That was the day of tyrannical rulers whose will was law and whose decrees of death, exile and other forms of punishment drove the people to organize for self-protection. The first American flag was not red, white and blue. It had a white background on which were black lines—the printed words of editors whose courage gave rise to that slogan, "Here shall the press the people's rights maintain."

In this day the press has its mission as in the past, but instead of tyrant kings there are other tyrannies to be encountered, some insidious and subtle, working in the dark, others brazen and outspoken, working in the light of day.

In the hundred and forty-eight years of American independence, progress in all lines of human endeavor, but particularly in science, has been so far-reaching and marvellous that no one set of men, such as editors, can be expected to hang all the beacon lanterns in the belfries of liberty or ride as Paul Reveres to spread the alarm when the invading foe comes in with the tide of unrest and sounds the reveille for the forces of destruction to gather under his banner.

There must be outposts where friend is distinguished from foe. There must be intelligence agencies to transmit the signals of warning. On *The JOURNAL*, and I am sure on hundreds of other American newspapers, the medical profession and its organizations are regarded as one of the most important of these.

It is a proven theory that the most successful government is that in which the individual is freest from molestation in his personal, family and vocational happiness, consistent with the corresponding freedom of his neighbors and the general welfare of all. The most conspicuous Americans have been those who fought the hardest to maintain this idea. The great majority of Americans today realize this truth, and live in the belief that they are secure in the enjoyment of absolute liberty and need not worry that it will be taken from them. They are the great unorganized mass of every-day citizens.

There are, however, other groups, *minorities highly organized, impelled by mistaken conceptions of grievances, whose activities are gradually encroaching on the majority.* We are, as Secretary Hughes says, the victims of these "pests." It is not necessary at this time to go deeply into this subject, but my aim is merely to call one phase to mind, as it concerns your profession and mine.

The history of medicine in the United States is one of the most glorious contributions to modern civilization. Rome was great in lawyers and orators, but weak in doctors. It used to be the boast of pompous Romans that the Roman empire lived for 600 years without a recognized medical profession—but look where the Roman empire is today.

America would not be what it is at this hour without American

medicine. This great profession has created and perfected itself, without undue interference or direction from legislatures, trotting to the beck and call of lay minorities that do not appreciate the devotion to the high calling, the self-abnegation and the fine sense of ethics, honor and public welfare that have marked the careers of American physicians and surgeons.

A nation cannot progress any more than an individual unless it is healthy physically. The healthiest civic and national mind will be found in the healthiest civic and national body. *It is undoubtedly true that the United States leads the world in health, and if that is so the credit is due to American physicians and surgeons.* The selective draft in the war showed us our weaknesses, and they were appalling to many, but our condition appeared less serious when our statistics were compared to those of other countries.

The American medical profession needs to take no back seat when its accomplishments are compared to those of its other professions; or to the advance in any other avenue of American endeavor. For every shining name in statecraft, law, journalism, education, theology or industry, there is an equally luminous name in medicine or surgery.

The secret of the success of American medicine has been its freedom of initiative for the individual and the bounty of reward allotted to pre-eminent accomplishment resulting from years of study and labor.

I need not tell you that in recent years *the world-wide tendency to government paternalism is beginning to assert itself against your citadel. You could tell me more instances than I could assemble to prove that statement. You could cite the example of Russia, England, Germany and other countries where medicine and surgery have been commercialized and governmentalized, to the detriment not only of the profession, but of the people and the countries.*

Our President was nominated for the office of vice-president because he was impervious to appeals that he used his authority as governor of Massachusetts to help the police of Boston win a strike which they had launched in the post-war travail. *A premier in England was able to keep his office because he "solved" certain social-political problems by doles and other expedients under which several thousand state physicians now threaten to strike and leave millions of dependent people at the mercy of any epidemic that might appear.*

Unless the champions of pure American ideals are constantly on the alert, it is easy to foresee a time *when the "isms" of Europe, already blown in seed form to this country, may take root and require much more strenuous attention than if they are plowed under now.*

After the hearings in Washington on a certain bill, I happened to read a medical journal and ran across some of the speeches that had been made before the committees of Congress against that legislation. I was amazed that I had not seen them before. Like other editors, I had received many of the arguments advanced in behalf of that law. But if my memory serves

me correctly, I never had been supplied with any extensive literature opposed to it.

Of course, the Washington correspondents and the press associations, like the Associated Press and the United Press, had carried on the telegraph wires skeleton accounts of the proceedings before the committees, and in these were boiled-down quotations of medical men who volunteered their time and services in behalf of their profession to go to the capital. *It is a fact, however, that propaganda sent to the press in favor of the measure was highly organized, and I even remember that some of it came into the office on government stationery and was carried in the mails under government frank.*

This leads to the casual reflection *that the physicians of the country do not avail themselves of the modern opportunity to get their views before the public.* Perhaps in no other country in the world is the press agents so active as in the United States. Great commercial institutions maintain not only highly organized advertising departments, which prepare and have printed paid announcements, but in addition, take from the staffs of the daily press some of the brightest and best-trained of our men and women, who write editorial matter and "stories" that are sent out as "news," in the hope that a busy editor will have an inch or a column of space that will be a resting place for these efforts.

I suppose that *the doctors of the United States devote a third of their practice to charity or free cases.* If the newspapers printed all the publicity puff that comes to them, from a third to a half of their space would be used to accommodate free advertising masquerading as news. Some of it is printed, of course, but the ordinary reader has no conception of the amount of time consumed in the newspaper office in eliminating the press agent's handout.

There is a frenzy for publicity. It touches not only business, but reaches into the homes of the high and the lowly. I often recall a few paragraphs in Plutarch's life of Marcus Brutus, describing the destruction of the Lycian city of Xanthus. As the Roman army advanced the Lycian men and women set fire to the city, gathered reeds, and scattered the fire to every corner. Then by the thousands they leaped from the city walls and other vantage points into the flames, and in other ways killed themselves and their families, until the destruction became so enormous that Brutus rode around the walls and pleaded with them to desist. He even offered rich prizes to those of his own soldiers who would save the lives of the crazed inhabitants. Writing of this fearful frenzy, Plutarch described it as "a violent appetite to die."

The American frenzy to appear in print can be pictured in no better phrase than "a violent appetite" to bask in the spotlight. To get a picture or a speech in the paper seems to be life's sole ambition to some people. In fact, psychologists and police declare that certain of Chicago's most

common crimes committed by girls and boys are inspired by a certain bug that they pick up in the swirl of this moving picture age. They have a violent appetite for notoriety.

A vast quantity of the publicity that reaches the newspapers is commercial and theatrical. A small amount—very much smaller—is insidiously prepared for the purpose of destruction—*aimed at the government, at the courts, at the churches, at the medical profession, at business, at labor and even at the press itself. It bears the poison of discontent in an arrow labeled "news."*

Then there are many worthy institutions and excellent causes that appeal to the newspapers for aid and co-operation. Great national, state and local organizations that are working zealously for the public welfare, the uplift of the unfortunate, the advancement of the church, the saving of the morals of the young and old, the education of the masses, the promotion of harmony of creeds and races, and so forth, have their press bureaus or public relations committees. These are the volunteer co-workers with those earnest newspapers that have not lowered their standards to become mere hawkers of pictures of bathing girls and publishers of lewd literature. They meet the press face to face, look the publisher and editor straight in the eye and say, "We, like you, are trying to help America and its people. Assist us, if you have the space, to get our message across."

That you might understand the wide range of publicity that comes to a newspaper office, I asked one of The *Journal's* staff to keep track of the first fifty pieces of publicity that reached the office by telegraph, mail and messenger, eliminating all commercial, theatrical and moving contributions and also so-called "welfare" organizations one of The *Journal's* staff to keep track of the offerings ran to more than 1,200 in three days. Fifty-two that might interest you are the following:

- Republican, Democratic and Socialist parties.
- American Bar Association.
- American Child Health Association.
- American Peace Award.
- American Red Cross.
- Art Institute of Chicago.
- Better Homes in America.
- Board of Temperance, Prohibition and Public Morals of M. E. Church.
- Chicago Public School Art Society.
- Chicago Theological Seminary.
- Child Health Association.
- Christian Science Church.
- Cornell College.
- Forestry, Reclamation and Immigration conference.
- General Federation of Women's Clubs.
- Harvard University.

Illinois Department of Public Health.
 Illinois Department of Labor.
 Infant Welfare Society of Chicago.
 Jewish People's Institute.
 Kiwanis Clubs.
 Knights of Columbus.
 Ku Klux Klan.
 Massachusetts Institute of Technology.
 Mississippi Valley Association.
 National Association for the Advancement of Colored People.
 National Kindergarten and Elementary College.
 New York University.
 Northwestern University.
 Philippine Press Bureau.
 Purdue University.
 Rotary Clubs.
 Salvation Army.
 Society of the Divine Word (Japanese Earthquake.)
 Union of American Hebrew Congregations.
 United Mine Workers of America.
 United Presbyterian Church.
 U. S. Association for Identification.
 U. S. Children's Bureau.
 U. S. Department of Agriculture, American meat, weather.
 U. S. Department of Commerce—census bureau.
 U. S. Veterans Bureau.
 U. S. War Department.
 University of Chicago.
 University of Wisconsin.
 Veterans of Foreign Wars.
 World Alliance for International Friendship Through the Churches.
 World Conference on Faith and Order.
 Y. M. C. A.
 Y. W. C. A.

Of course, all that matter was not published. A paper that printed it would be dull. But some of it kept us in touch with what other people were doing.

You will notice that there were no organizations of physicians there. The medical profession was silent. It had tonsillitis or throat paralysis that stilled its voice. Standing on its ancient plane of high ethics, it waited for the reporter to come to it. In twenty-two years in the newspaper field, I do not remember ever having seen any statement or other offering that could be regarded as publicity coming from the American Medical association. Nor do I recall any from the Chicago Medical Society.

Although your profession may be under fire, you do not even resort to self-defense, the first law of nature.

As a matter of fact, physicians and surgeons not only do not initiate publicity, but they run away from it. Most doctors become clams when the newspapers approach them. I do not suggest that you lower the bars on your confidential relations with your patients. You may say that newspaper men do not possess the technical knowledge of your profession to be entrusted with your confidence. If that is so, you might try to teach us. Your profession has the distinction of being the only one that manifests that shyness.

Editors are crying for relief against a flood of publicity. Let me not be among those who may be accused of increasing that flood. But the press and the doctor do meet face to face many of the problems of life and death. They travel the road side by side, seeking to alleviate the sufferings of humanity, each in its own way, but often working jointly. The press is not all-seeing, all-knowing, all-present. Perhaps the medical profession, wise in its own high standard of ethics is right in standing aloof, but there are things that doctors do and there are great secrets that your profession holds that add not only to the physical, but the spiritual and moral welfare of your fellow citizens. *We are informed that in a generation the average lifetime has been lengthened 7 to 12 years. What contribution has any group made to America that is more valuable than that?* The doings of the profession that accomplished it are matters about which newspaper readers should be informed. There is lots of news going to waste. The profession is losing an opportunity to help the people and the country, and millions of Americans remain in ignorance of matters that would benefit them.

There must be some compromise ground on which your duty to spread the knowledge of health and your standards of ethics can be allowed to merge. When you discover that ground, I feel sure that the press will lend its ready hand of co-operation.

The Chicago Medical Recorder

Representing
MISSISSIPPI VALLEY MEDICAL ASSOCIATION
TRI-STATE MEDICAL SOCIETY
(ILLINOIS—IOWA—MISSOURI)
MEDICO-LEGAL SOCIETY

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NORTHWESTERN UNIVERSITY RECEIVES ENDOWMENT FOR MEDICAL SCHOOL LIBRARY

Northwestern University recently received a gift of \$100,000 from Dr. and Mrs. Archibald Church of Chicago for endowing and maintaining a medical library for Northwestern University Medical School. Dr. Church, formerly editor of the *RECORDER*, has been a member of the staff of Northwestern University Medical School for thirty-two years and has been the neurologist of the staffs of St. Luke's, Mercy and Wesley hospitals for many years.

The donors of this generous gift believe that the greatness of a university does not so much depend upon great buildings as upon the personnel of the faculty members. Therefore, as a step toward making Northwestern University Medical School the most effective of educational factors, Dr. and Mrs. Church desire to supply its faculty members and students with a most comprehensive and up-to-date medical library. They intend this to be a day-to-day library for students and instructors, as Dr. Church has informed the trustees his plan is not to build up with this fund a great permanent medical library but one that will adequately and correctly reflect the opinions of the best medical authorities of the day upon all important medical questions.

Both Dr. and Mrs. Church are anxious to see Northwestern University Medical School, when located on the downtown campus of the university, so completely equipped and so well-housed and endowed that it will attract to its faculty many of the most eminent men of the medical profession. An adequate library is a preliminary step in this direction.

Dr. Archibald Church was born in Fond du Lac, Wisconsin, March 23, 1861, and received his M. D. from the College of Physicians and Surgeons in Chicago in 1884. He married Miss Margaret Finch, of Maysville, Kentucky, March 28, 1894, and in the pursuit of his professional career has specialized in mental and nervous diseases. Dr. Church is the author of a well-known text-book on mental and nervous diseases and has made numerous other contributions to medical literature. He is a member of the American Medical Association, Illinois State Medical Society, the Chicago Medico-Legal Society and the American Neurological Association.

WHY IS AMERICA A LAWLESS NATION?

One hears so much about present-day disregard for law and so much about the recklessness of modern youth, that we take pleasure in reprinting the opinion of one of our leading jurists. It is his belief that religious training must be given to our young people as a basis on which to build up character and a moral code.

Alfred J. Talley, judge in the oldest court in the United States, the Court of General Sessions in and for the County of New York, which received its charter from Charles II, believes only religion taught the young will check the lawlessness which characterizes the present day youth.

For over a decade Judge Talley has been in close contact with the criminal side of New York, and he is seriously concerned with the criminal development of the last few years particularly, which reveals the youth of the city charged with crimes of which one would think only the most hardened criminals capable.

Judge Talley indorses the American Bar Association's recent statement that we are the most lawless nation on the face of the earth. The reason? In the judge's opinion, "Of all the great nations of the earth, save only bolshevik Russia, we alone exclude religion from our common schools."

"It is not the immigrant who is swelling the ranks of our young criminals," Judge Talley says. "The immigrant trained in a religious school nine times out of ten is law-abiding. But his son and his daughter, privileged to attend our great schools, are the ones who come before me day after day. It is most exceptional to find among these a boy or girl who was born, or at least schooled, in the old country, whatever it might be. No, they have grown up and received their training—God save the name—here!"

Judge Talley has no patience with the sickly sentimentalism spent in making excuses for weakmindedness among these young criminals. In his experience they are not weakminded. They are not mentally deficient, nor are they morons. He has found them keen and clever, more alert than the average boy.

Judge Talley admits other conditions that go to swell the crime and lawlessness of these youth—but it is the lack of religious training which deprives the youth of a moral code upon which to build character.

The destruction of home life and the insane lust for the pursuit of cheap and ready pleasure of the city are causes to be reckoned with in this era of recklessness. The loss of parents' influence, the judge believes, is not entirely due to the aversion of the children to that influence, but because the parents do not choose to exercise it.

One of the great tragedies confronting the judges today is having to convict desperate youths whose parents are obviously and unquestionably decent and respectable.

"In how many homes," the judge asks, "that you and I know tonight

will the dishes stay unwashed in the sink while the youngsters go off to a movie or a dance—and the parents of many of them will not be far behind them?”

George Washington incorporated in his farewell address to his country the following paragraph: “Let us with caution indulge the supposition that morality can be maintained without religion. Whatever may be conceded to the influence of refined education on minds of peculiar structure, reason and experience, forbid us to expect that national morality can prevail in exclusion of religious principles.”

“It’s patriotism, not religion, that makes me feel so strongly on this subject,” said Judge Talley. “Remember, these hundreds of boys and girls who are coming before me every month, with no moral sanction in their makeup, are the mothers and fathers of the next generation. They are pagans. And paganism has ever spelled national disaster, as it spells personal disaster to these young criminals.”

IS INSANITY A SOCIAL RESPONSIBILITY?

Many people think that insanity is a condition quite apart from the ordinary impressions and activities that enter into the daily living of each of us. We do not think of insanity as a condition having to do with a false way of looking at the facts of life as they are presented from moment to moment in the casual circumstances of our habitual days. We hesitate to recognize that it is the habit of mind whereby we infer the significance of the facts before us not in the light of what they are but in the light of what we would like them to be. In brief, insanity is our preference for viewing life not as it is, but as we would have it. It is to surrender thought to the caprice of emotion.

The point is though that as such tendencies are general, they are inseparable from our social habituations and beliefs. Hence, insane tendencies of adaptation are not to be remedied except as they are regarded from the point of view of their social significance. This means that in dealing with the phenomena of mental disorders our attack must be forthright and unflinching. Up to the present time we have hesitated to challenge our accustomed thought. We have slipped too easily into the attitude of mind that merely palliates and condones.

This is to make light of insanity. This is to avoid recognizing its true implications. To attempt to palliate the seriousness of insanity by making light of it is as shortsighted as it is sentimental. The condition is a truly serious one. The sombreness of the situation cannot be exaggerated. On the other hand, our attitude would be equally restricted and sentimental if we permitted the gloom that rests upon the features of insanity to darken our outlook upon it.

Because the external picture offers so painful and forbidding an aspect, it does not mean that the actuality underlying disordered states of mind is inaccessible to the remedial measures of a proper scientific

approach. Although the symptoms presented upon the surface are serious and distressing, nevertheless the condition represented by them belongs for the most part within the domain of the disorders that are correctible.

The success of the surgeon does not consist in cheerfully dismissing the alarming character of his patient's symptoms. He does not attempt to mitigate the terrible dangers of malignant tumour with the evasive unconcern of an easy-going optimism. On the contrary the success of the surgeon lies in fearlessly facing the seriousness of the condition before him and resolutely approaching it through decisive recourse to the knife.

In the realm of surgery there are comparatively few derangements of the physical organism which if taken in hand in their early stages may not be approached with entire confidence of recovery. Likewise in the realm of psychiatry there is no functional impairment of the mental processes which, if recognized at its onset or in its early course, may not be approached with equal assurance of complete readjustment. As no manifestation seems hopeless to the physician of physical ailments where through timely intervention the conditions permit its being regarded scientifically, so too wherever through timely conditions mental disorders may be treated scientifically, analytically, no situation (barring structural change due to some noxious or infectious process) is too formidable to the physician who has to deal with the disorders of the mind.

The physician, however, fails to compass the disorders of the mind who does not recognize the broad social involvement of these disharmonies. He cannot truly correct these discrepancies of emotion, these distortions of mental outlook, as long as he regards them as exceptional and isolated processes. It is only as he comes to view them as exaggerations of habitual tendencies common to us all that he may cope understandingly with the pathology of disordered mental states.—*Mental Hygiene.*

THE BANTING RESEARCH FOUNDATION

The discovery and development of Insulin by Dr. F. B. Banting, Mr. C. H. Best and other co-operating investigators, has brought relief to a multitude of sufferers from diabetes throughout the world. At a low price this boon has been placed within reach of all. But it is well known that only a beginning has been made in alleviation even of this one malady. Notwithstanding the magnificent advances that have been effected in arresting or averting many of the most grievous attacks of disease on human life, mankind is beset by enemies. Their strategy must be discovered and circumvented. This can be done only by patient research conducted in the main by skilled investigators who devote their lives to scientific enquiry. For these investigators the public at large must provide the means of support, for they it is who benefit immensely thereby. Such work has been going on quietly all over the world. Laboratories in the

Universities have groups of investigators working in co-operation under the direction of competent scientists. But only now and then does a result such as Dr. Banting achieved strike the imagination of the world. It is therefore but appropriate that advantage should be taken of it to appeal to the grateful public for support in making possible the continuance and prosecution of this work and of other investigations in medical science. To effect this and to signalize the discovery and the development of Insulin, the Banting Research Foundation has been created.

The purposes of this Foundation have been defined to be:

(a) To provide, in the first instance, further funds for the support of the Banting and Best Chair of Medical Research at the University of Toronto.

(b) To establish a fund for the adequate financial support of such scientific workers as may have proposed definite problems of medical research, and for whom funds are not otherwise available. Such assistance may be given to persons working in the University of Toronto or elsewhere.

All financial arrangements in connection with the collection and reception of the principal and subsequent expenditure of the income of the fund have been vested in a Board of Trustees, the members of which are appointed for a term of three years subject to reappointment at the end of their respective terms of office.

Subscriptions to the fund will be welcome at any time and should be made payable to the Banting Research Foundation, Toronto, Canada.

RESURRECTION

"He is risen," glorious one
 In the saving thoughts of men
 In unselfish heart-throbs, when
 Any kindly deed is done.

"He is risen" to inspire
 You and me in daily living
 Trusting, serving and forgiving
 As each moment shall require.

"He is risen," hour by hour
 In the mystery of beauty
 Mysteries of love and duty
 Miracle of smile and flower.

Easter lily! reborn youth,
 Birth and death each but a door
 Christ doth live forever more
 Resurrected in each truth.

—Arthur M. Corwin, M. D., Chicago.



MODERN UROLOGY. Edited by Hugh Cabot, M.D., C.M.G., F.A.C.S. Dean and Prof. of Surgery in The Medical School of the Uni. of Michigan, Ann Arbor, Mich. 220 volumes. Second edition. Illustrated. Lea & Febigen, Philadelphia and New York, 1924. Price \$18.00.

The second edition of this splendid system of Modern Urology deserves the highest commendation possible. It represents a composite work of the most distinguished urologists of the United States—all members of the American College of Surgeons—and the most distinguished clinicians of this country, among whom we may mention in addition to Prof. Hugh Cabot of the University of Michigan, Prof. E. L. Keyes of Cornell University; Prof. Bransford Lewis of the Medical Department of St. Louis University; Prof. H. A. Fowler of Howard University Medical School; Prof. Frank Hinman, Professor of Urology, University of California Medical School; Prof. A. T. Osgood, of the New York University and Bellevue Hospital Medical College; Prof. William C. Quinby of the Harvard Medical School; Prof. A. Raymond Stevens of New York University and the Policlinic Medical School; Prof. Hugh Hampton Young of Johns Hopkins University; Prof. J. Dellinger Barney of the Massachusetts General Hospital; Prof. B. S. Barringer of the Memorial Hospital of New York; Prof. B. C. Corbus, Urologist of the Evanston Hospital, and other distinguished clinicians.

It is an admirable work throughout, authoritative, complete, reliable, up-to-date, beautifully illustrated, well printed—a work of art. Every man doing urology or attempting to do the same must necessarily have this work in his library. We have not the space to go into the merits of each article by so many different writers, but the names alone are sufficient guarantee as to the value of each chapter. Section Four of Volume One on the prostate and seminal vesicle is especially interesting, the contributors to this section being Professors Quinby, Gardner and Hugh Hampton Young, dealing with the anatomy and physiology of prostatic obstructions, cancer and sarcoma of the prostate and calculus diseases. It is indeed difficult to pick out any one part for special praise where every section is beyond criticism.

Volume Two is most interesting, dealing with diseases of the bladder, urethra and kidney and is one of the most instructive volumes we have ever had the privilege of reading. Among additional contributors we find articles by Prof. Hugh Cabot, Prof. Francis R. Hagner of George Washington University; Prof. G. L. Hunter of Johns Hopkins University; Prof. H. L. Kretschmer of Rush Medical College, Chicago; Prof. William E. Lower of Western Reserve University; Prof. Richard F. O'Neil of the

Massachusetts General Hospital, and others, making this volume an extraordinary combination of the best surgical talent in this line. The reader will find the very latest development and progress in genito-urinary surgery, and the technique of all operations are described in detail. Every progressive surgeon and every physician as well should have these magnificent volumes of Cabot's Modern Urology in his library.

LECTURES ON ENDOCRINOLOGY. By Walter Timme, M.D. Attending Neurologist, Neurological Institute, New York. Illustrated. Paul B. Roeber, Inc., New York, New York. Price \$1.50.

This little book contains a number of interesting lectures on endocrinology—the thymus, pineal, thyroid, suprarenal and pituitary glands, with a concluding chapter on the gonads.

These lectures are of great interest and written in a very interesting style, and give everything known on the subject up to January, 1921. Later developments since that time have not been included as this book has only been published on account of constant demand for the author's articles on the clinical end of endocrinology which appeared in the "Neurological Bulletin" for January, 1921. It is hoped, indeed, the author states that he intends to publish a larger and more complete work on this subject.

OPERATIVE SURGERY. Covering the operative technic involved in the operations of general and special surgery. By Warren Stone Bickham, M.D., F.A.C.S. Former Surgeon in charge of General Surgery, Manhattan State Hospital, New York, Former Visiting Surgeon to Charity and to Touro Hospitals, New Orleans. In six octavo volumes totaling approximately 5400 pages with 6378 illustrations, mostly original and separate Desk Index Volume. Volume 3 containing 1,001 pages with 1,249 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, \$10.00 per volume. Sold by subscription only. Index Volume free.

The third volume of this splendid system of Operative Surgery by Warren Stone Bickham is devoted to operations upon the eyes, ears, nose, osseous air sinuses of the head, cheeks, lips, teeth, hard and soft palates, tongue, pharynx, salivary glands, larynx, trachea, esophagus, thyroid gland, thymus gland, remnants of thyreoglossal duct and bronchial clefts, cervical or supernumerary ribs, carotid body, neck, breast, thoracic wall, thoracic cavity, pleural lungs, and the mediastina. Covering such a most extensive field, all we can do is repeat again, that this is a master work on surgery, a cyclopedia of knowledge, a work of art, a wonderful series of books, which should be found in the library of every progressive surgeon, and physician as well. It will keep you posted as to the latest progress in surgery, how to diagnose, how to operate and when not to operate. In short a most indispensable work, for which you should subscribe without delay!

METHODS IN MEDICINE. The Manual of the Medical Service of George Dock, M.D., Sc.D. Formerly Professor of Medicine, Washington University School of Medicine, etc., By George R. Herrmann, M.D., Ph.D., Instructor in Medicine, University of Michigan. Illustrated. St. Louis, The C. V. Mosby Company, 1924.

This is a unique publication and is for the purpose of illustrating the organization and efficiency of a great medical service. The system recommended by Dr. Herrmann is the one which has proven successful in the medical service of Professor Dock at the Robert Abbott Barnes Hospital at St. Louis, and embodies the ideas as well of Professor Christian of the Peter Bent Brigham Hospital at Boston. As stated in the preface this manual is intended as a practical bedside guide, the minimal requirements of systematic diagnostic study; a system of essential emergency, scientific therapeutic and dietetic management; and directions for the vital preservation of the valuable data in the record of each patient.

THE ANTIDIABETIC FUNCTIONS OF THE PANCREAS AND THE SUCCESSFUL ISOLATION OF THE ANTIDIABETIC HORMONE. By Drs. J. J. R. MacLeod and F. G. Banting. The C. V. Mosby Company. St. Louis, Mo.

These distinguished authors and research workers present this monograph on the above subject published under the auspices of the Wayne County Medical Society, Detroit, Mich.

INTRANASAL SURGERY. By Fred J. Pratt, M.D., F.A.C.S., Assistant Professor, Eye, Ear, Nose and Throat, Medical School, University of Minnesota. Illustrated. Philadelphia, F. A. Davis Company, Publishers. 1924. Price \$5.00.

There is so much nasal surgery practiced by inexperienced men that we gladly welcome a book of this kind. It is written in a very simple, readable style so that the beginner can readily understand, besides being very complete with most excellent illustrations to demonstrate every step of all operations described. Besides a good anatomical description, the author describes diseases of the nasal chambers, atrophic rhinitis, septum and submucous resection, the lateral wall, turbinates, ethmoidal cells, sphenoidal, frontal and maxillary sinuses. The treatment is up to date and very little to criticize, such as the use of nitric acid in epistaxis. We should want an expert to do this, and it is risky treatment to recommend to a beginner. This, however, is true of most nasal operations. Too many ignorant men try their hand on this delicate organ without knowing anything about the seriousness of poor operative work. We recommend this book most highly.



Hospital Additions.—The contract has been let for the seventy-five bed addition, power house and laundry for the Norwegian Lutheran Home and Hospital on Leavitt Street at a cost of \$200,000.

St. Louis Medical Society's Building.—The sum of \$100,000 has been pledged and a plot of ground on Lindell Boulevard purchased for the new home for the society and its library. A drive to raise \$275,000 is being conducted.

Salvation Army Opens Hospital.—The Salvation Army formally opened a new maternity hospital and home on North Crawford Avenue, April 14, which was erected at a cost of \$280,000. It was designed particularly for unmarried mothers, and will accommodate seventy-five women and forty babies.

Medical Women's National Association.—The annual meeting of the Medical Women's National Association will be held in Chicago at the same time as the annual meeting of the American Medical Association, June 9-13, under the presidency of Dr. Kate Campbell Mead, Middletown, Conn. Dr. Louise Martindale of London, England, will address the association, June 9, on "International Friendships."

Michigan Physicians Must Report Venereal Disease.—The state supreme court, March 5, at Lansing, upheld the state law, passed in 1919, compelling physicians to report cases of venereal disease to the state board of health. The case came to the supreme court from Kent County where Telford T. Wohlford was charged with failing to make such report. He was convicted by a jury, but the trial court declared the law unconstitutional and held sentence in abeyance.

Tuberculosis Conference.—Mrs. Theodore B. Sächs, Superintendent of the Chicago Tuberculosis Institute, wishes to call attention to the fact that the annual meeting of the Mississippi Valley Tuberculosis Conference will be held at Sioux Falls, So. Dakota, Sept. 22, 23 and 24th.

The Institute will be very glad to make reservations for both railroad and hotel at the request of any one in this community who wishes to attend the conference.

Dr. Cumming Attends Foreign Conferences.—Surg. Gen. Hugh S. Cumming has sailed for Europe to inspect the activities of U. S. Public Health Service officers stationed in foreign consulates and to attend the meeting of the body known as the Office international d'hygiene publique. He will also attend an immigration conference to be held at Rome, May 15. During the absence of Surgeon General Cumming, Asst. Surg. Gen. M. J. White, the ranking officer of the bureau, will be in charge.

New State Laboratory.—The Illinois state department of public health has completed arrangements to establish a branch diagnostic laboratory in connection with the Decatur and Macon County Hospital. Work at this laboratory will be confined to the examination of cultures for the diagnosis of diphtheria which will be done under the direction of Dr. Bartlett C. Shackford. This brings the total number of such branch laboratories in the state to seven, the other six being located at Chicago, Galesburg, Moline, Ottawa, Urbana and East St. Louis.

A French Saranac.—Dr. Edmund L. Gros, an American physician of Paris, one of the organizers of the Lafayette Escadrille, and a group of men and

women have launched a movement to establish a tuberculosis sanitarium similar to that founded by the late Dr. Edward L. Trudeau at Saranac Lake, N. Y. The site has been selected at Passy in the French Alps which has an altitude of 4,000 feet. It is planned to name two of the eight-bed cottages in memory of Dr. Trudeau, and Americans will be asked to contribute \$20,000 necessary for the purpose. Nearly 1,000,000 francs have already been subscribed toward the movement. The present death rate of tuberculosis in France is 211 per 100,000 inhabitants.

Willard Gibbs Medal Awarded.—The Chicago Section of the American Chemical Society awarded, April 17, the Willard Gibbs Medal to Dr. Gilbert N. Lewis, dean of the College of Chemistry, University of California. Dr. Lewis responded with an address on "The Molecule as a Magnet." This is the thirteenth annual award of the medal. Among the previous recipients have been Dr. Ira Remsen, former president of Johns Hopkins University and founder of American chemistry in its present form; Prof. Svante Arrhenius of the Nobel Institute, Stockholm; Prof. T. W. Richards, Harvard University, and Mme. Curie of the University of Paris. The medal was founded by William A. Converse of Chicago in 1911 as a memorial to Prof. Willard Gibbs, formerly a chemist at Yale University, New Haven, Conn.

A Section for Public Health Nurses in the American Public Health Association.—After two years' probation, the Public Health Nursing Section of the American Public Health Association was made permanent at the Boston Annual Meeting in October. While most nurses are already overburdened with organizations, it is felt that this affiliation is a privilege that should be accepted by all public health nurses in executive positions. The whyfore of this statement is found in two quotations from the December "Public Health Nurse." Miss Margaret Stack, Chairman of this Section, says, "The American Public Health Association differs from other health organizations not only in its membership, which includes doctors, health officers, bacteriologists, sanitary engineers, statisticians, nurses, health publicity workers, etc., but because it is endeavoring to become a professional group with the object of establishing a public health profession. As workers in the public health profession, nurses should be members of this Association." And Miss Stack might have added, it is the only professional public health society where the various kinds of public health workers can meet on the common ground of their professional interest. Miss Elizabeth Fox in discussing the program of the Boston meeting, says, "That there should be questions of relationship between an old profession such as medicine and a young profession such as public health nursing is but natural. That this relationship needs analysis and exposition has been increasingly apparent. That it should be approached from the angle of the physician, the health officer and the public health nurse, since all these are concerned, is clearly in the interests of thoroughness and justice. Therefore it seemed particularly appropriate that this subject should be presented for discussion by the American Public Health Association which offers a common meeting-ground for these three groups." It is just this need of an opportunity to talk things over that has led to much misunderstanding on the part of both professions in the past, and the keen interest displayed at this meeting bespeaks a future for this Section that will be reflected in every Public Health Nursing Organization that participates. Nurses who are members of the Association desiring transfers to the Public Health Nursing Section may request transfer from the General Secretary. Those desiring membership should send their names and addresses to Mr. Homer N. Calver, General Secretary, American Public Health Association, 370 Seventh Avenue, New York City.

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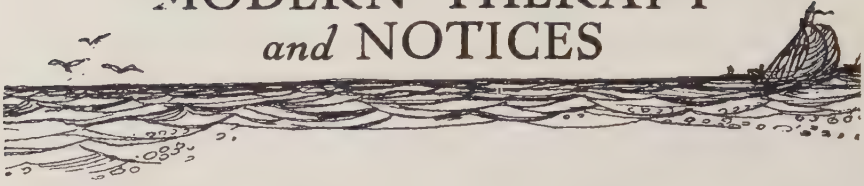
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MODERN THERAPY and NOTICES



ETIOLOGY AND INTRAVENOUS TREATMENT OF CHRONIC CONDITIONS

By V. K. JINDRA, M. D.
Miami, Fla.

Despite the fact that the patient suffering from chronic disease has been with us since the beginning of medicine, we are only now starting to realize the true significance of his condition. From the theoretical viewpoint, the modern conception of the germ theory of disease and of the results of parental protein digestion are laying the foundations for the scientific explanation of the causes contributing towards a chronic disease. From the therapeutic standpoint we are finally enabled to treat such patients with an unhopd for degree of success by employing intravenous therapy. It is my purpose to develop these points and to show that the administration of drugs intravenously is placing therapeutics upon an exact, scientific plane.

We are all familiar with the researches of Pasteur and Jenner which led to the germ theory for the explanation of the cause of infectious diseases, and of the contributions of Virchow on the science of cellular pathology showing that the laws governing the cells in health and in disease are the same, and that it is only the conditions which are different. It remained for Vaughan and those following him, however, to point out that most of the toxic symptoms are due to parenteral protein digestion. He proved not only that bacteria are essentially particulate, specific proteins, but that all true proteins contain a poisonous group. "At first we found that the cellular substance of certain pathogenic bacteria could be split up with the liberation of a poisonous substance; then we tested non-pathogenic bacteria, then animal and vegetable proteins, and all with the same result. Not only do all these contain a poison but so far its gross effects on the higher animals have been studied, the same poison. We have held that when we know more about these poisonous bodies obtained from all proteins, it will be found that chemically they are not identical, but physiologically they are so closely similar that up to the present time we have not been able to distinguish one from the other by the symptoms induced. The poison obtained from the typhoid bacillus, that from egg-white, and that from the edestine of hempseed kill animals in the same doses, with the same symptoms, and with the same lesions. This is striking evidence of the similarity in the structure of the protein molecule, whether it be of bacterial, animal or vegetable origin. One cannot resist

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the temptation to formulate a theory to fit these facts. Indeed, the theory unfolds itself and may be briefly expressed as follows: All proteins are constructed on the same model and contain a chemical nucleus, archon, or key-stone. This is the poisonous group and is practically the same in all proteins. One protein differs from all others in its secondary and possibly its tertiary groups. In these lies the specificity of proteins. Living proteins function through their secondary and tertiary groups. When the primary group is detached from its own subsidiary and specific groups it manifests its poisonous action through the avidity which it has for secondary groups of other proteins. These are thus detached from their normal positions and consequently the living protein is deprived of its capability of functioning normally."¹

Vaughan showed further that the chemical nucleus does not become a poison until stripped in part at least of its secondary groups, and the intensity of its poisonous action is determined by the thoroughness with which the secondary groups have been removed. When the proteins are submitted to the action of disrupting agents there is the possibility of the chemical nucleus being set free more or less completely, and to the extent that it is detached it becomes a poison. Any foreign protein which can grow and multiply in the body of a given animal may prove pathogenic to that animal, and the infectious diseases result from parenteral protein digestion. The poison elaborated in all the infectious diseases is the same. "It is the protein poison, and it is physiologically the same whatever its source, whether it comes from coccus, bacterium, spirilli or protozoa. The specificity which characterizes the infectious diseases is not due to the poison formed, but to the protein cause and the specific ferment produced."¹

When a cell in the animal body is permeated by a foreign protein, the former strives to elaborate a ferment by which the latter is destroyed. "We believe this to be a biological law, and we think that it lies at the foundation of a correct understanding of many of the problems of immunity and disease."

Longcope, working along similar lines, found that, "Repeated injections of foreign protein in animals sensitized to these specific proteins produced areas of degeneration with extensive inflammatory reactions in the myocardium, liver and kidneys. The changes consist of local areas of degeneration, infiltrated with small round cells which, in the heart, are scattered throughout the myocardium of both ventricles, in the liver are usually situated about the portal spaces, and in the kidneys are seen most often through the midzone, whence they extend into the cortex. In their most advanced stages these alterations produce the picture of an extensive myocarditis, a periportal cirrhosis of the liver or a widespread subacute nephritis with involvement, at times, of the glomeruli."²

We can now readily understand the pathological conditions underlying a chronic disease. The original bacterial infection may have disappeared long ago. But the diseased area remains, the cells are broken down, protein decomposition products are formed and thrown into the blood



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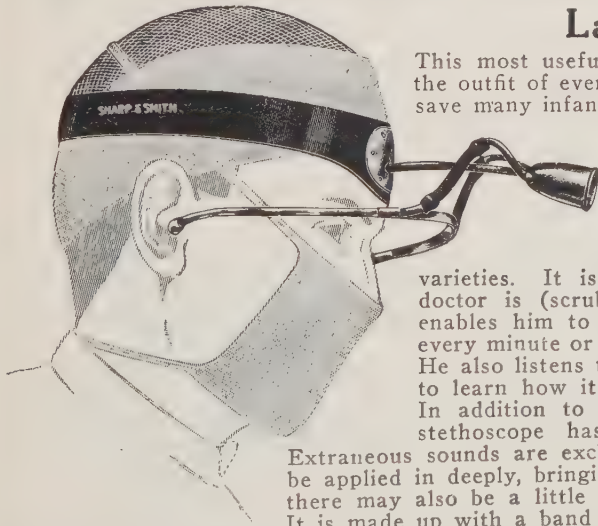
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stream and to the surface. These split protein products are the toxic elements giving rise to chronic conditions. We see it empirically in our daily practice when the complete case history is carefully elicited. It has been demonstrated experimentally in animal experiments.

Proteins of pathological origin, or other proteins, such as horse serum or egg albumen, can be injected daily or several times a day for a period of several weeks, and, although no crisis or acute anaphylaxis is observed, a high state of immunity is built up. These animals, kept under observation, are found two or three months later to show all of the symptoms of the common chronic conditions, nerve manifestations, dermatoses with alopecia, some degenerative condition of the tissues and arteries, arthritic tendencies, asthma, and nephritis. In some cases there is internal hemorrhage due to liver rupture, the spleen and bone marrow show indications of hyperplasia, the endocrine glands indicate hypersecretion, and the liver and kidneys undergo definite lesions. The lesions begin with edema of the endothelium followed by granular degeneration of the cells and rupture of the intima. These symptoms are followed by stages of degeneration with increase in the number of endothelial nuclei, round cell infiltration, and heart lesions.

On this point Longcope² states, "It was, at first, thought necessary that before subsequent injections of the same protein could bring about the development of such changes considerable time must elapse; but further study showed that similar though less marked alterations might occur in animals receiving but a single dose of horse serum or egg-white. The question arose as to whether the effects produced were the result of introducing repeatedly into the bodies of these animals small quantities of a substance which was in itself primarily toxic for the cells of the kidneys, liver, and myocardium, or whether the horse serum and egg albumen became injurious only after the animals were sensitized to these substances. In the latter case the sub-acute inflammatory reactions might readily be dependent upon the repeated anaphylactic shocks to which the animals were subjected." The experiments conducted by Longcope for the solution of the problem led to the conclusion that the mechanism of the development of the lesions in the myocardium, liver, and kidneys in rabbits is the same, whether single or repeated inoculations are made in sensitized animals. By the latter method much more marked and extensive changes may be produced.

It is evident from this that parenteral protein digestion of the tissues naturally depresses the functions of the organs; this in turn is the direct or indirect cause of lesions of the skin, digestive organs, joints, and lungs, or, in clinical terms, of arthritis, nephritis, asthma, emphysema, neurasthenia, anemia, cachexia, and the appearance of other chronic disturbances.

Thus a great truth comes clearly into view. The symptoms of acute infection are identical with those of chronic intoxication. The difference between them is simply the rate of progression. Viewed from this standpoint the practitioner may recognize conditions which he constantly meets,



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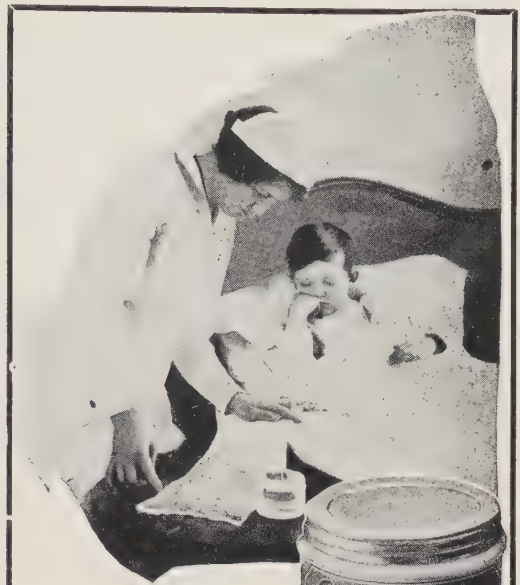
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and which he may unhesitatingly refer to a common cause. The same therapeutic agents would consequently be employed in both conditions.

Before discussing treatment, however, I wish to draw your attention to one fundamental fact which is invariably omitted in all discussions of chronic diseases, that is the relation between a diminished red cell count and the chronic condition. I venture to state that every chronic case has associated with it anemia in some form. Clear the anemia and you have more than half cured the patient. It is the anemia which is the prime factor in maintaining the diseased condition. Anemia is known to follow all infections or surgical operations. It may be unrecognized, the body may have gradually accustomed itself to struggle with a diminished supply of erythrocytes, but the anemia is still present, lowering the resistance of the organism, reducing the oxidizing and scavenging power of the blood. How can the body return to normal condition with its recuperative powers cut in half? Redfield³ defines disease as follows: "Disease is the effect produced upon certain cells or organs by a continued overload, which, if not interrupted, results in the death of the cells or organs." These conditions are peculiarly fulfilled in chronic diseases, the overload consisting of the protein split products present in excess because there are not a sufficient number of erythrocytes present to destroy or eliminate them.

The two problems which confront us, therefore, in the treatment of any chronic condition are—first, to combat the anemia, and secondly, to remove the split protein products. The intravenous administration of iron and arsenic effects the former, of sodium iodide the latter. The physician who argues against intravenous therapy does not understand the fundamental facts of pharmacology, chemistry, and physiology which underlie therapeutics. For years we have given iron and arsenic by mouth for anemia, but the results obtained were variable. Why? Because we never knew in what form it eventually reached the blood stream for which it was finally intended. We were continually aguing as to the correct dosage, or rather as to what portion of the dose employed we imagined was utilized by the tissue for which it was intended. Of the two evils which was worse,—the anemia or the digestive disturbances? When sodium iodide was used, was it comparable with the other drugs we were using? Should it be administered before or after meals? I could enumerate many other perplexities which troubled us as long as we had no scientific method of judging the therapeutic results of a drug, but this is unnecessary as you are familiar with all of them.

I will turn rather to the bright side of the picture, to the modern period of intravenous therapy. I wonder how many of us realize that within the last ten years the syringe method of intravenous administration has entirely revolutionized therapeutics. This advance has been due chiefly to the work of Loeser, who has shown us that intravenous therapy is scientific, practical and safe. It enables us to introduce the drug directly into the blood stream where we wish it to exert its pharmacological influence. Moreover, we know the exact form and amount of the drug which

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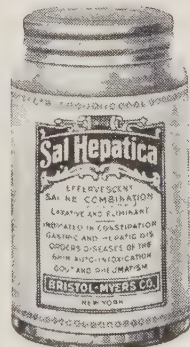
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REFERENCES

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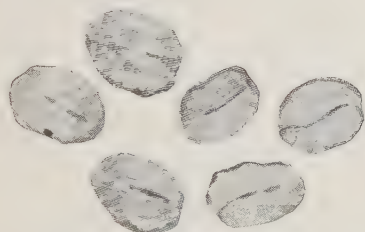
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—Winnipeg Free Press.

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Mother—"If you wanted to go fishing, why didn't you come and ask me first?"

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Unlucky Motorist (having killed the lady's puppy)—"Madam, I will replace the animal."

Indignant Owner—"Sir, you flatter yourself."—Bison.

Don't Knock

Mayor—"Why are you parking?"

Callow Youth—"There's a miss in the car."—Drexlerd.

Impossible

Doctor—"Put out your tongue. More than that—all of it."

Child—"But, doctor, I can't. It's fastened at the other end!"—Woodmen News.

It Beats the Devil

A colored preacher called on a white minister. He found the white man busy writing.

"What you-all doin'?" he asked.

"I'm preparing notes for my sermon for next Sunday."

The colored gentleman shook his head. "I certainly would never do dat, sir," he said. "De debbil am a-lookin' right over your shoulder and knows everything you gwine to say, an' he am prepared for you. Now, I don't make no notes and when I gets up to talk, neder me nor de debbil hisself don't know what I'm goin' to say."—The Woodmen News.

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Young Lawyer—I haven't lost a case yet.

Rival—Oh, you'll get a case some day.—Boston Transcript.

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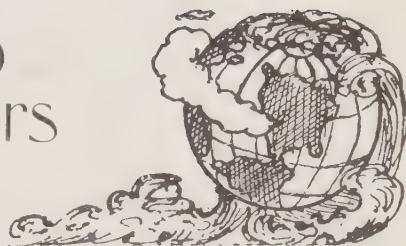
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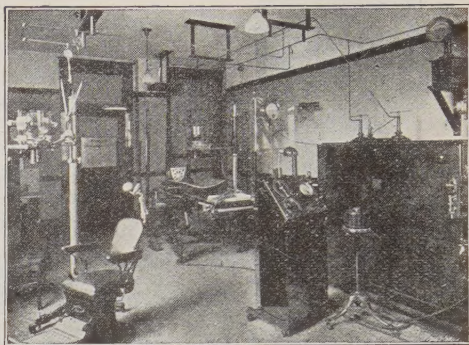
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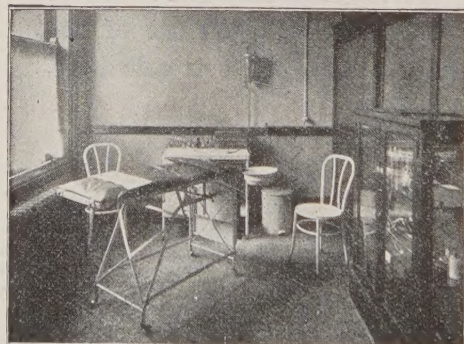
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